GenCore version 4.5

OM nucleic - nucleic search, using sw model

Run on: June 30, 2002, 16:04:08 ; Search time 2325.7 Seconds
(without alignments)
659.983 Million cell updates/sec

Title: US-09-303-518D-571
Perfect score: 894
Sequence: 1 atgtttcgtttacaattcag.....accgctataaaacgccgtaa 894

Scoring table: IDENTITY_NUC
Gapop 10.0 , Gapext 1.0

Searched: 1736436 seqs, 858457221 residues

Total number of hits satisfying chosen parameters: 3472872

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 100 summaries

Database : N_Geneseq_032802:*
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24: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA2002.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	Result No.	Score	% Query Match	Length	DB	ID	Description
	1	894	100.0	894	20	AAZ12219	Neisseria gonorrho
	2	894	100.0	894	21	AAZ53709	Neisseria gonorrhe
	3	807.4	90.3	897	20	AAZ12217	Neisseria meningit
	4	807.4	90.3	897	21	AAZ53712	Neisseria meningit
c	5	807.4	90.3	56485	21	AAA81476	N. meningitidis pa
	6	807.4	90.3	349980	21	AAF21612	Neisseria meningit
	7	807.4	90.3	837096	21	AAA81489	N. meningitidis pa
	8	799.4	89.4	897	20	AAZ12218	Neisseria meningit
	9	799.4	89.4	897	21	AAZ53711	Neisseria meningit
	10	791.6	88.5	894	22	AAF91451	N. meningitidis (s
	11	762.8	85.3	866	21	AAZ53710	Neisseria meningit
	12	347.8	38.9	369	20	AAZ12216	Neisseria meningit
	13	347.8	38.9	369	21	AAA81391	N. meningitidis Me
	14	46.2	5.2	2061	24	AAI69367	Streptomyces sp L-
	15	42.8	4.8	924	22	AAF91450	Moraxella catarrha
c	16	42.8	4.8	33140	22	AAF28536	Genomic fragment #
	17	39.6	4.4	676	22	ABA13443	Human nervous syst
	18	39.6	4.4	10732	21	AAA10594	Gene encoding a su
	19	38.6	4.3	4403765	22	AAI99683	Mycobacterium tube
	20	38.4	4.3	687	23	AAS54297	Pseudomonas aerugi
	21	38.4	4.3	2834	22	ABA19565	Human nervous syst
	22	38.4	4.3	4358	24	AAI67895	Nucleotide sequenc
	23	38	4.3	861	19	AAV40622	DN722_2 cDNA clone
	24	38	4.3	4493	20	AAX83610	Human ontherin enc
	25	38	4.3	4493	20	AAX77400	Cadherin-like poly
	26	38	4.3	8277	22	AAS31116	Human diagnostic a
	27	37.4	4.2	1191	23	AAS54057	Pseudomonas aerugi
c	28	37	4.1	23128	23	AAS59552	Propionibacterium
	29	37	4.1	4411529	22	AAI99682	Mycobacterium tube
c	30	36.8	4.1	1401	22	AAH01679	Bordetella pertuss
	31	36.6	4.1	548	21	AAC46701	Zea mays DNA fragm
	32	36.4	4.1	472	21	AAA14821	DNA encoding a cel
	33	36.4	4.1	4451	24	AAI72045	Chrysoporium CBH1
	34	36.4	4.1	65140	22	AAD17184	Streptomyces nours
	35	36.4	4.1	125401	22	AAD17186	Streptomyces nours
	36	35.6	4.0	3117	21	AAC55371	GTP-binding protei
	37	35.6	4.0	5340	21	AAC55374	Human GTP-binding
	38	35.4	4.0	606	21	AAA55213	C. symbiosum open
c	39	35.4	4.0	32998	21	AAA55186	Cenarchaeum symbio
	40	35.2	3.9	1098	22	AAF75385	Codon-optimised mu
c	41	35.2	3.9	1812	21	AAZ53332	Neisseria gonorrhe
c	42	35.2	3.9	4411529	22	AAI99682	Mycobacterium tube
	43	35	3.9	1479	19	AAT94202	AEPII1a clone 63GA
c	44	35	3.9	1812	21	AAZ53334	Neisseria meningit
	45	35	3.9	77536	21	AAA14651	Nucleotide sequenc
	46	34.8	3.9	7311	22	AAD07025	Pseudomonas aerugi
	47	34.4	3.8	6741	21	AAA10595	Gene encoding a su
	48	34.4	3.8	19616	22	ABA16094	Human nervous syst
	49	34.4	3.8	19616	22	ABA16856	Human nervous syst
	50	34.4	3.8	19616	22	AAL36855	Human musculoskele
	51	34.2	3.8	2277	19	AAV13836	Homo sapiens mamma
	52	34.2	3.8	2277	19	AAV05372	Human telomerase p
	53	34.2	3.8	2293	6	AAN50491	Sequence of herpes
	54	34.2	3.8	3023	21	AAA97605	Balanus amphitrite
	55	34.2	3.8	3698	19	AAV62170	HSV-2 strain SB5 C
	56	34.2	3.8	4590	22	AAH24065	Yeast AOD9604-asso
	57	34.2	3.8	10211	19	AAV62152	HSV-2 strain SB5 C
	58	34.2	3.8	117213	19	AAV62176	HSV-2 strain SB5 C
	59	34	3.8	300	20	AAZ14800	Human gene express
	60	34	3.8	790	22	AAI58711	Human polynucleoti
	61	34	3.8	957	22	AAL00319	Human reproductive
c	62	34	3.8	1146	22	AAI60497	Human polynucleoti
	63	34	3.8	1198	21	AAA76264	Maize glutathione-
	64	34	3.8	1563	23	AAS88595	DNA encoding novel
	65	34	3.8	1860	23	AAS87667	DNA encoding novel
	66	34	3.8	2239	23	AAS89700	DNA encoding novel
	67	34	3.8	2685	22	AAH81442	Escherichia coli p
	68	34	3.8	17787	22	AAL02960	Human reproductive
	69	34	3.8	17787	22	AAL03363	Human reproductive
	70	34	3.8	17787	22	AAS27625	DNA encoding novel
c	71	34	3.8	17787	22	AAK68760	Human immune/haema
	72	33.8	3.8	327	23	AAS54097	Pseudomonas aerugi
	73	33.8	3.8	703	23	ABL07757	Drosophila melanog
	74	33.8	3.8	776	22	AAS43289	DNA encoding novel
	75	33.8	3.8	1796	24	ABA04482	Human PP3501 prote
	76	33.8	3.8	2085	19	AAV32028	Nucleotide sequenc
	77	33.8	3.8	2198	24	AAS62354	cDNA sequence #141
	78	33.8	3.8	3358	20	AAX87773	Human mucin gene M
	79	33.6	3.8	582	22	AAC84174	Mouse OX2RH2 degen
c	80	33.6	3.8	849	22	AAH00251	Achromobacter xylo
	81	33.6	3.8	1554	19	AAV27114	Adenovirus 17 pent
	82	33.6	3.8	12019	20	AAX18867	Alcaligenes sp. Po

c	83	33.6	3.8	34094	20	AAZ30163	Complete nucleotid
	84	33.6	3.8	35099	19	AAV27112	Adenovirus 17. Ma
c	85	33.6	3.8	534720	19	AAV30458	Rhizobium species
c	86	33.6	3.8	536165	19	AAV30459	Rhizobium species
	87	33.4	3.7	2070	13	AAQ24875	Human amyloidin pr
	88	33.4	3.7	78845	21	AAA81463	N. meningitidis pa
c	89	33.4	3.7	114955	20	AAX53491	Human adenosine A1
c	90	33.4	3.7	349980	21	AAF21608	Neisseria meningit
	91	33.2	3.7	749	22	AAH64931	Human secreted pro
	92	33.2	3.7	1155	21	AAA52953	Synthetic Bacillus
	93	33.2	3.7	1158	18	AAV06396	Maize optimised ge
	94	33.2	3.7	1158	21	AAA96768	Maize-optimised ge
	95	33.2	3.7	1158	22	AAF91954	B t maize optimise
c	96	33.2	3.7	2495	21	AAC77402	Human ORFX ORF2957
	97	33.2	3.7	29879	14	AAQ46806	eryA region of S.
	98	33	3.7	575	21	AAA81712	N. meningitidis pa
	99	33	3.7	709	23	ABL03001	Drosophila melanog
	100	33	3.7	754	22	AAH00214	Stenotrophomonas m

ALIGNMENTS

RESULT 1
AAZ12219
ID AAZ12219 standard; DNA; 894 BP.
XX
AC AAZ12219;
XX
DT 08-OCT-1999 (first entry)
XX
DE Neisseria gonorrhoeae complete ORF138 sequence.
XX
KW Neisseria meningitidis; Neisseria gonorrhoeae; antigen; vaccine;
KW treatment; Neisseria infection; meningitis; septicaemia; gonorrhea; ss.
XX
OS Neisseria gonorrhoeae.
XX
PN WO9924578-A2.
XX
PD 20-MAY-1999.
XX
PF 09-OCT-1998; 98WO-IB01665.
XX
PR 01-SEP-1998; 98GB-0019016.
PR 06-NOV-1997; 97GB-0023516.
PR 14-NOV-1997; 97GB-0024190.
PR 18-NOV-1997; 97GB-0024386.
PR 27-NOV-1997; 97GB-0025158.
PR 10-DEC-1997; 97GB-0026147.
PR 14-JAN-1998; 98GB-0000759.
XX
PA (CHIR-) CHIRON SPA.
XX
PI Grandi G, Masignani V, Pizza M, Rappuoli R, Scarlato V;
XX
DR WPI; 1999-327407/27.
DR P-PSDB; AAY38784.
XX
PT Proteins from Neisseria meningitidis and N. gonorrhoeae useful for
PT diagnosis, treatment and prevention of infection
XX
PS Claim 9; Page 327-328; 524pp; English.
XX
CC Nucleotide sequences AAZ11972-Z12358 represent open reading frames
CC (ORFs) of Neisseria meningitidis and N. gonorrhoeae which encode
CC antigenic proteins (see AAY38499-Y38944). The antigenic proteins, their
CC fragments, their nucleic acids and antibodies are used for diagnosis,
CC prevention (as vaccines) or treatment of Neisseria infections,
CC such as meningitis, septicaemia and gonorrhea. Both organisms
CC are closely related. Fragments of the nucleic acids are useful
CC as hybridisation probes and antisense reagents.
XX

SQ Sequence 894 BP; 216 A; 270 C; 233 G; 175 T; 0 other;

Query Match 100.0%; Score 894; DB 20; Length 894;
Best Local Similarity 100.0%; Pred. No. 5.1e-246;
Matches 894; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy    781 ttgaacggcaacaaagcccacgatgccgccgtgttcaaccgcaataccgaatattggata 840
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Db    781 ttgaacggcaacaaagcccacgatgccgccgtgttcaaccgcaataccgaatattggata 840

Qy    841 cgccgttttccgacgcagtatctgtttatgtacaaccgctataaaacgccgtaa 894
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```

RESULT 2
AAZ53709
ID AAZ53709 standard; DNA; 894 BP.
XX
AC AAZ53709;

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XX
DT   21-MAR-2000  (first entry)
XX
DE   Neisseria gonorrheae ORF 505 partial DNA sequence SEQ ID NO:1367.
XX
KW   Neisseria meningitidis; Neisseria gonorrheae; antigen; vaccine;
KW   antigenic; diagnosis; immunogenic; infection; meningitis; septicaemia;
KW   antibacterial; gene therapy; ds.
XX
OS   Neisseria gonorrheae.
XX
PN   WO9957280-A2.
XX
PD   11-NOV-1999.
XX
PF   30-APR-1999;   99WO-US09346.
XX
PR   01-MAY-1998;   98US-0083758.
PR   31-JUL-1998;   98US-0094869.
PR   02-SEP-1998;   98US-0098994.
PR   02-SEP-1998;   98US-0099062.
PR   09-OCT-1998;   98US-0103749.
PR   09-OCT-1998;   98US-0103794.
PR   09-OCT-1998;   98US-0103796.
PR   25-FEB-1999;   99US-0121528.
XX
PA   (CHIR ) CHIRON CORP.
PA   (GENO-) INST GENOMIC RES.
XX
PI   Fraser C, Galeotti C, Grandi G, Hickey E, Masignani V, Mora M;
PI   Petersen J, Pizza M, Rappuoli R, Ratti G, Scalato E, Scarselli M;
PI   Tettelin H, Venter JC;
XX
DR   WPI; 2000-062150/05.
DR   P-PSDB; AAY74947.
XX
PT   Novel Neisserial polypeptides predicted to be useful antigens for
PT   vaccines and diagnostics -
XX
PS   Claim 7; Page 744; 1453pp; English.
XX
CC   AAZ53015 to AAZ54536, AAZ54577 to AAZ54615, and AAY74253 to AAY75941
CC   represent novel Neisseria meningitis and N. gonorrheae polynucleotides
CC   and polypeptides. AAZ54537 to AAZ54576 and AAZ54616 to AAZ55473 represent
CC   PCR primers used in the exemplification of the present invention. The
CC   polypeptides, the polynucleotides, antibodies and compositions of
CC   the invention can be used as vaccines, as diagnostic reagents, and as
CC   immunogenic compositions. The polypeptides can be used in the
CC   manufacture of medicaments for treating or preventing infection due to
CC   Neisserial bacteria (e.g. meningitis and septicaemia), to detect the
CC   presence of Neisseria bacteria, or to raise antibodies. They may also
CC   be used to screen for agonists or antagonists, which may themselves
CC   have use as antibacterial agents. The polynucleotides of the invention
CC   may also be used in gene therapy protocols.
XX
SQ   Sequence 894 BP; 216 A; 270 C; 233 G; 175 T; 0 other;

  Query Match             100.0%;  Score 894;  DB 21;  Length 894;
  Best Local Similarity   100.0%;  Pred. No. 5.1e-246;
  Matches  894;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

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          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    661 accatgacactggcggcaaaattggcacacgtcaaaggcgtgaaaaccctgtttttctgc 720

Qy    721 tgcgaacgcctgcccgacggacaaggcttcgtgttgcacatccgccccgtccaaggggaa 780
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    721 tgcgaacgcctgcccgacggacaaggcttcgtgttgcacatccgccccgtccaaggggaa 780

Qy    781 ttgaacggcaacaaagcccacgatgccgccgtgttcaaccgcaataccgaatattggata 840
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    781 ttgaacggcaacaaagcccacgatgccgccgtgttcaaccgcaataccgaatattggata 840

Qy    841 cgccgttttccgacgcagtatctgtttatgtacaaccgctataaaacgccgtaa 894
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    841 cgccgttttccgacgcagtatctgtttatgtacaaccgctataaaacgccgtaa 894


RESULT   3
AAZ12217
ID   AAZ12217 standard; DNA; 897 BP.
XX
AC   AAZ12217;
XX
DT   08-OCT-1999  (first entry)
XX
DE   Neisseria meningitidis complete ORF138 sequence.
XX
KW   Neisseria meningitidis; Neisseria gonorrhoeae; antigen; vaccine;
KW   treatment; Neisseria infection; meningitis; septicaemia; gonorrhea; ss.
XX
OS   Neisseria meningitidis.
XX
PN   WO9924578-A2.
XX
PD   20-MAY-1999.
XX
PF   09-OCT-1998;   98WO-IB01665.
XX
PR   01-SEP-1998;   98GB-0019016.
PR   06-NOV-1997;   97GB-0023516.
```

PR 14-NOV-1997; 97GB-0024190.
PR 18-NOV-1997; 97GB-0024386.
PR 27-NOV-1997; 97GB-0025158.
PR 10-DEC-1997; 97GB-0026147.
PR 14-JAN-1998; 98GB-0000759.
XX
PA (CHIR-) CHIRON SPA.
XX
PI Grandi G, Masignani V, Pizza M, Rappuoli R, Scarlato V;
XX
DR WPI; 1999-327407/27.
DR P-PSDB; AAY38782.
XX
PT Proteins from Neisseria meningitidis and N. gonorrhoeae useful for
PT diagnosis, treatment and prevention of infection
XX
PS Claim 9; Page 326; 524pp; English.
XX
CC Nucleotide sequences AAZ11972-Z12358 represent open reading frames
CC (ORFs) of Neisseria meningitidis and N. gonorrhoeae which encode
CC antigenic proteins (see AAY38499-Y38944). The antigenic proteins, their
CC fragments, their nucleic acids and antibodies are used for diagnosis,
CC prevention (as vaccines) or treatment of Neisseria infections,
CC such as meningitis, septicaemia and gonorrhea. Both organisms
CC are closely related. Fragments of the nucleic acids are useful
CC as hybridisation probes and antisense reagents.
XX
SQ Sequence 897 BP; 223 A; 266 C; 227 G; 181 T; 0 other;

Query Match 90.3%; Score 807.4; DB 20; Length 897;
Best Local Similarity 94.5%; Pred. No. 3.3e-221;
Matches 848; Conservative 0; Mismatches 46; Indels 3; Gaps 1;

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Qy      1 atgtttcgtttacaattcaggctgtttccccctttgcgaaccgccatgcacatcctgttg 60
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Db      1 atgtttcgtttacaattcaggctgtttccccctttgcgaaccgccatgcacatcctgttg 60

Qy     61 accgccctgctcaaatgcctctccctgctgtcgctttcctgtctgcacacgctgggaaac 120
          |||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||
Db     61 accgccctgctcaaatgcctctccctgctgccgctttcctgtctgcacacgctgggaaac 120

Qy    121 cggctcggacatctggcgttttacctttaaaggaagaccgcgcgcgcatcgtcgccaat 180
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    121 cggctcggacatctggcgttttacctttaaaggaagaccgcgcgcgcatcgtcgccaat 180

Qy    181 atgcggcaggcgggtttgaaccccgacacgcagacggtcaaagccgtttttgcggaaacg 240
          |||||||||||||||||||||||||| |  | ||||||||||||||||||||||||||||
Db    181 atgcggcaggcgggtttgaaccccgaccccaaaacggtcaaagccgtttttgcggaaacg 240

Qy    241 gcaaaatgcggtttggaacttgcccccgcgtttttcaaaaaaccggaagacatcgaaaca 300
          |||||| ||||||||||||||||||||||||||||| |||||||||||||| ||||||
Db    241 gcaaaaggcggtttggaacttgcccccgcgtttttcagaaaaccggaagacatagaaaca 300

Qy    301 atgttcaaagcggtacacggctgggaacacgtgcagcaggctttggacaagggcgaaggg 360
          |||||||||||||||||||||||||| |||||||||||||||||   |||||||
Db    301 atgttcaaagcggtacacggctgggaacatgtgcagcaggctttggacaaacacgaaggg 360

Qy    361 ctgctgttcatcacgccgcacatcggcagctacgatttgggcggacgctacatcagccag 420
          ||||| ||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    361 ctgctattcatcacgccgcacatcggcagctacgatttgggcggacgctacatcagccag 420

Qy    421 cagcttccgttccacctgaccgccatgtacaagccgccgaaaatcaaagcgatagacaaa 480
          ||||||||||||  |||||||||||||||| ||||||||||||||||||||||||||||
Db    421 cagcttccgttcccgctgaccgccatgtacaaaccgccgaaaatcaaagcgatagacaaa 480

Qy    481 atcatgcaggcgggcagggtgcgcggcaaaggcaaaaccgcgcccaccggcatacaaggg 540
          |||||||||||||||||| |||||||||| |||||||||| ||| ||||||||||
Db    481 atcatgcaggcgggcagggttcgcggcaaaggaaaaaccgcgcctaccagcatacaaggg 540

Qy    541 gtcaaacaaatcatcaaggccctgcgcgcgggcgaggcaaccatcatcctgcccgaccac 600
          |||||||||||||||| |||||||| ||||||| ||||||||| ||||||||||||||
Db    541 gtcaaacaaatcatcaaagccctgcgttcgggcgaagcaaccatcgtcctgcccgaccac 600
```

```
Qy    601 gtcccttctccgcaggaaggcgg---cggcgtgtgggcggatttttttcggcaaacctgca 657
          ||||| || || || ||||||||    ||||| |||| |||||| ||||||||||||||
Db    601 gtcccctccccctcaagaaggcggggaaggcgtatgggtggatttcttcggcaaacctgcc 660

Qy    658 tacaccatgacactggcggcaaaattggcacacgtcaaaggcgtgaaaaccctgtttttc 717
          || |||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Db    661 tataccatgacgctggcggcaaaattggcacacgtcaaaggcgtgaaaaccctgtttttc 720

Qy    718 tgctgcgaacgcctgcccgacggacaaggcttcgtgttgcacatccgccccgtccaaggg 777
          |||||||||||||||| | |||||||||| ||||  ||||||||||||||||||||||||
Db    721 tgctgcgaacgcctgcctggcggacaaggtttcgatttgcacatccgccccgtccaaggg 780

Qy    778 gaattgaacggcaacaaagcccacgatgccgccgtgttcaaccgcaataccgaatattgg 837
          |||||||||||| |||||||||| |||||||||||||||||||||| ||||||||||
Db    781 gaattgaacggcgacaaagcccatgatgccgccgtgttcaaccgcaatgccgaatattgg 840

Qy    838 atacgccgttttccgacgcagtatctgtttatgtacaaccgctataaaacgccgtaa 894
          |||||||||||||||||||||||||||||||||||||||||||| |||| |||||||
Db    841 atacgccgttttccgacgcagtatctgtttatgtacaaccgctacaaaatgccgtaa 897
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RESULT 4
AAZ53712
ID AAZ53712 standard; DNA; 897 BP.
XX
AC AAZ53712;
XX
DT 21-MAR-2000 (first entry)
XX
DE Neisseria meningitidis ORF 505 partial DNA sequence SEQ ID NO:1373.
XX
KW Neisseria meningitidis; Neisseria gonorrheae; antigen; vaccine;
KW antigenic; diagnosis; immunogenic; infection; meningitis; septicaemia;
KW antibacterial; gene therapy; ds.
XX
OS Neisseria meningitidis.
XX
PN WO9957280-A2.
XX
PD 11-NOV-1999.
XX
PF 30-APR-1999; 99WO-US09346.
XX
PR 01-MAY-1998; 98US-0083758.
PR 31-JUL-1998; 98US-0094869.
PR 02-SEP-1998; 98US-0098994.
PR 02-SEP-1998; 98US-0099062.
PR 09-OCT-1998; 98US-0103749.
PR 09-OCT-1998; 98US-0103794.
PR 09-OCT-1998; 98US-0103796.
PR 25-FEB-1999; 99US-0121528.
XX
PA (CHIR) CHIRON CORP.
PA (GENO-) INST GENOMIC RES.
XX
PI Fraser C, Galeotti C, Grandi G, Hickey E, Masignani V, Mora M;
PI Petersen J, Pizza M, Rappuoli R, Ratti G, Scalato E, Scarselli M;
PI Tettelin H, Venter JC;
XX
DR WPI; 2000-062150/05.
DR P-PSDB; AAY74950.
XX
PT Novel Neisserial polypeptides predicted to be useful antigens for
PT vaccines and diagnostics
XX
PS Claim 7; Page 746-747; 1453pp; English.
XX
CC AAZ53015 to AAZ54536, AAZ54577 to AAZ54615, and AAY74253 to AAY75941
CC represent novel Neisseria meningitis and N. gonorrheae polynucleotides
CC and polypeptides. AAZ54537 to AAZ54576 and AAZ54616 to AAZ55473 represent
CC PCR primers used in the exemplification of the present invention. The
CC polypeptides, the polynucleotides, antibodies and compositions of

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CC   the invention can be used as vaccines, as diagnostic reagents, and as
CC   immunogenic compositions. The polypeptides can be used in the
CC   manufacture of medicaments for treating or preventing infection due to
CC   Neisserial bacteria (e.g. meningitis and septicaemia), to detect the
CC   presence of Neisseria bacteria, or to raise antibodies. They may also
CC   be used to screen for agonists or antagonists, which may themselves
CC   have use as antibacterial agents. The polynucleotides of the invention
CC   may also be used in gene therapy protocols.
XX
SQ   Sequence 897 BP; 223 A; 266 C; 227 G; 181 T; 0 other;

  Query Match            90.3%;  Score 807.4;  DB 21;  Length 897;
  Best Local Similarity  94.5%;  Pred. No. 3.3e-221;
  Matches  848;  Conservative    0;  Mismatches   46;  Indels    3;  Gaps    1;

Qy      1 atgtttcgtttacaattcaggctgtttccccctttgcgaaccgccatgcacatcctgttg 60
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Db      1 atgtttcgtttacaattcaggctgtttccccctttgcgaaccgccatgcacatcctgttg 60

Qy     61 accgccctgctcaaatgcctctccctgctgtcgctttcctgtctgcacacgctgggaaac 120
          |||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||
Db     61 accgccctgctcaaatgcctctccctgctgccgctttcctgtctgcacacgctgggaaac 120

Qy    121 cggctcggacatctggcgttttaccttttaaaggaagaccgcgcgcgcatcgtcgccaat 180
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Db    121 cggctcggacatctggcgttttaccttttaaaggaagaccgcgcgcgcatcgtcgccaat 180

Qy    181 atgcggcaggcgggtttgaaccccgacacgcagacggtcaaagccgtttttgcggaaacg 240
          |||||||||||||||||||||||||| |  | ||||||||||||||||||||||||||||
Db    181 atgcggcaggcgggtttgaaccccgaccccaaaacggtcaaagccgtttttgcggaaacg 240

Qy    241 gcaaaatgcggtttggaacttgcccccgcgtttttcaaaaaaccggaagacatcgaaaca 300
          |||||| ||||||||||||||||||||||||||||| |||||||||||||||| |||||||
Db    241 gcaaaaggcggtttggaacttgcccccgcgtttttcagaaaaccggaagacatagaaaca 300

Qy    301 atgttcaaagcggtacacggctgggaacacgtgcagcaggctttggacaagggcgaaggg 360
          |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    301 atgttcaaagcggtacacggctgggaacatgtgcagcaggctttggacaaacacgaaggg 360

Qy    361 ctgctgttcatcacgccgcacatcggcagctacgatttgggcggacgctacatcagccag 420
          ||||| ||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    361 ctgctattcatcacgccgcacatcggcagctacgatttgggcggacgctacatcagccag 420

Qy    421 cagcttccgttccacctgaccgccatgtacaagccgccgaaaatcaaagcgatagacaaa 480
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Db    421 cagcttccgttcccgctgaccgccatgtacaaaccgccgaaaatcaaagcgatagacaaa 480

Qy    481 atcatgcaggcgggcagggtgcgcggcaaaggcaaaaccgcgcccaccggcatacaaggg 540
          |||||||||||||||||||| |||||||||||| |||||||||||| ||| ||||||||||
Db    481 atcatgcaggcgggcagggttcgcggcaaaggaaaaaccgcgcctaccagcatacaaggg 540

Qy    541 gtcaaacaaatcatcaaggccctgcgcgcgggcgaggcaaccatcatcctgcccgaccac 600
          |||||||||||||||| |||||||| |||||| |||||||| ||||||||||||||||||
Db    541 gtcaaacaaatcatcaaagccctgcgttcgggcgaagcaaccatcgtcctgcccgaccac 600

Qy    601 gtcccttctccgcaggaaggcgg---cggcgtgtgggcggatttttttcggcaaacctgca 657
          ||||| || || || ||||||||    ||||| |||| |||||| ||||||||||||||||
Db    601 gtcccctcccctcaagaaggcggggaaggcgtatgggtggatttcttcggcaaacctgcc 660

Qy    658 tacaccatgacactggcggcaaaattggcacacgtcaaaggcgtgaaaaccctgtttttc 717
          || |||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Db    661 tataccatgacgctggcggcaaaattggcacacgtcaaaggcgtgaaaaccctgtttttc 720

Qy    718 tgctgcgaacgcctgcccgacggacaaggcttcgtgttgcacatccgccccgtccaaggg 777
          |||||||||||||||| | ||||||||| |||| ||||||||||||||||||||||||||
Db    721 tgctgcgaacgcctgcctggcggacaaggtttcgatttgcacatccgccccgtccaaggg 780

Qy    778 gaattgaacggcaacaaagcccacgatgccgccgtgttcaaccgcaatacgaatattgg 837
          |||||||||||| |||||||||| |||||||||||||||||||||| ||||||||||||
Db    781 gaattgaacggcgacaaagcccatgatgccgccgtgttcaaccgcaatgccgaatattgg 840

Qy    838 atacgccgttttccgacgcagtatctgtttatgtacaaccgctataaaaacgccgtaa 894
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          |||||||||||||||||||||||||||||||||||||||||||||| |||| |||||||
Db    841 atacgccgttttccgacgcagtatctgtttatgtacaaccgctacaaaatgccgtaa 897


RESULT   5
AAA81476/c
ID   AAA81476 standard; DNA; 56485 BP.
XX
AC   AAA81476;
XX
DT   04-DEC-2000  (first entry)
XX
DE   N. meningitidis partial DNA sequence gnm_24 SEQ ID NO:24.
XX
KW   Neisseria meningitidis; Neisseria gonorrheae; genome; immunogenic;
KW   antigen; vaccine; diagnosis; infection; antibacterial; identification;
KW   Meningococcus B; MenB; ds.
XX
OS   Neisseria meningitidis.
XX
PN   WO200022430-A2.
XX
PD   20-APR-2000.
XX
PF   08-OCT-1999;   99WO-US23573.
XX
PR   09-OCT-1998;   98US-0103794.
PR   30-APR-1999;   99US-0132068.
XX
PA   (CHIR ) CHIRON CORP.
XX
PI   Frazer CM,  Hickey E,  Peterson J,  Tettelin H,  Venter JC;
PI   Masignani V,  Galeotti C,  Mora M,  Ratti G,  Scarselli M,  Scarlato V;
PI   Rappuoli R,  Pizza M;
XX
DR   WPI; 2000-318079/27.
XX
PT   Isolated nucleotide sequences of Neisseria meningitidis which can be
PT   used in the diagnosis and treatment of N. meningitidis infection and
PT   other Neisserial infections, for example, N.gonorrhoea -
XX
PS   Claim 7; Page 507-524; 1760pp; English.
XX
CC   The present invention describes methods of obtaining immunogenic
CC   proteins from Neisseria genomic sequences. AAA81453 to AAA82414
CC   represent specifically claimed Neisseria meningitidis genomic DNA
CC   sequences; AAA81260 to AAA81303 and AAB25620 to AAB25663 represent
CC   Neisseria DNA sequences and their corresponding proteins; AAA81254 to
CC   AAA81259 and AAA81304 to AAA81321 represent PCR primers used in the
CC   isolation of Neisseria meningitidis DNA sequences; and AAA81322 to
CC   AAA81452 represent Neisseria meningitidis MenB polynucleotide ORF
CC   sequences, which are all used in the exemplification of the present
CC   invention. The nucleic acid sequences, protein sequences, and antibodies
CC   against them, can be used in the manufacture of a composition. The
CC   composition can be used as a medicament (or in the manufacture of a
CC   medicament) for treating, preventing or diagnosing infection due to
CC   Neisserial bacteria. For example, some of the identified proteins could
CC   be components of vaccines against Meningococcus B; against all serotypes;
CC   and/or against all pathogenic Neissariae. Identification of sequences
CC   from the bacterium will also facilitate production of biological probes,
CC   particularly organism-specific probes. Attempts to make efficacious
CC   Meningococcus B vaccines have failed mainly due to antigen tolerance.
CC   Multivalent vaccines have also been tried but none have successfully
CC   overcome antigenic variability. The provision of further, complete
CC   sequences may provide an opportunity to identify secreted or surface
CC   exposed proteins that may be presumed targets for the immune system and
CC   which are not antigenically variable or at least more conserved than
CC   other more variable regions.
XX
SQ   Sequence 56485 BP; 12504 A; 14247 C; 16158 G; 13573 T; 3 other;

  Query Match            90.3%;  Score 807.4;  DB 21;  Length 56485;
```

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  Best Local Similarity   94.5%;  Pred. No. 1.7e-220;
  Matches  848;  Conservative    0;  Mismatches   46;  Indels    3;  Gaps    1;

Qy      1 atgtttcgtttacaattcaggctgtttcccccttgcgaaccgccatgcacatcctgttg 60
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Db  52654 ATGTTTCGTTTACAATTCAGGCTGTTTCCCCCTTTGCGAACCGCCATGCACATCCTGTTG 52595

Qy     61 accgccctgctcaaatgcctctccctgctgtcgctttcctgtctgcacacgctgggaaac 120
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Db  52594 ACCGCCCTGCTCAAATGCCTCTCCCTGCTGCCGCTTTCCTGTCTGCACACGCTGGGAAAC 52535

Qy    121 cggctcggacatctggcgttttaccttttaaaggaagaccgcgcgcgcatcgtcgccaat 180
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db  52534 CGGCTCGGACATCTGGCGTTTTACCTTTTAAAGGAAGACCGCGCGCGCATCGTCGCCAAT 52475

Qy    181 atgcggcaggcgggtttgaaccccgacacgcagacggtcaaagccgtttttgcggaaacg 240
          |||||||||||||||||||||||||| |  | ||||||||||||||||||||||||||||
Db  52474 ATGCGGCAGGCGGGTTTGAACCCCGACCCCAAAACGGTCAAAGCCGTTTTTGCGGAAACG 52415

Qy    241 gcaaaatgcggtttggaacttgccccccgcgtttttcaaaaaaccggaagacatcgaaaca 300
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Db  52414 GCAAAAGGCGGTTTGGAACTTGCCCCCCGCGTTTTTCAGAAAACCGGAAGACATAGAAACA 52355

Qy    301 atgttcaaagcggtacacggctgggaacacgtgcagcaggctttggacaagggcgaaggg 360
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Db  52354 ATGTTCAAAGCGGTACACGGCTGGGAACATGTGCAGCAGGCTTTGGACAAACACGAAGGG 52295

Qy    361 ctgctgttcatcacgccgcacatcggcagctacgatttgggcggacgctacatcagccag 420
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Db  52294 CTGCTATTCATCACGCCGCACATCGGCAGCTACGATTTGGGCGGACGCTACATCAGCCAG 52235

Qy    421 cagcttccgttccacctgaccgccatgtacaagccgccgaaaatcaaagcgatagacaaa 480
          |||||||||||||  |||||||||||||||||| ||||||||||||||||||||||||||
Db  52234 CAGCTTCCGTTCCCGCTGACCGCCATGTACAAACCGCCGAAAATCAAAGCGATAGACAAA 52175

Qy    481 atcatgcaggcgggcagggtgcgcggcaaaggcaaaaccgcgcccaccggcatacaaggg 540
          |||||||||||||||||| |||||||||| |||||||||| ||| ||||||||||||||
Db  52174 ATCATGCAGGCGGGCAGGGTTCGCGGCAAAGGAAAAACCGCGCCTACCAGCATACAAGGG 52115

Qy    541 gtcaaacaaatcatcaaggccctgcgcgcgggcgaggcaaccatcatcctgcccgaccac 600
          |||||||||||||||| |||||||| |||||| |||||||| ||||||||||||||||||
Db  52114 GTCAAACAAATCATCAAAGCCCTGCGTTCGGGCGAAGCAACCATCGTCCTGCCCGACCAC 52055

Qy    601 gtcccttctccgcaggaaggcgg---cggcgtgtgggcggatttttcggcaaacctgca 657
          ||||| || || || ||||||||    ||||| |||| |||||| ||||||||||||||||
Db  52054 GTCCCCTCCCCTCAAGAAGGCGGGGAAGGCGTATGGGTGGATTTCTTCGGCAAACCTGCC 51995

Qy    658 tacaccatgacactggcggcaaaattggcacacgtcaaaggcgtgaaaaccctgtttttc 717
          || |||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Db  51994 TATACCATGACGCTGGCGGCAAAATTGGCACACGTCAAAGGCGTGAAAACCCTGTTTTTC 51935

Qy    718 tgctgcgaacgcctgcccgacggacaaggcttcgtgttgcacatccgccccgtccaaggg 777
          |||||||||||||||| | ||||||||| ||||  ||||||||||||||||||||||||
Db  51934 TGCTGCGAACGCCTGCCTGGCGGACAAGGTTTCGATTTGCACATCCGCCCCGTCCAAGGG 51875

Qy    778 gaattgaacggcaacaaagcccacgatgccgccgtgttcaaccgcaataccgaatattgg 837
          |||||||||||| |||||||||| |||||||||||||||||||||| ||||||||||
Db  51874 GAATTGAACGGCGACAAAGCCCATGATGCCGCCGTGTTCAACCGCAATGCCGAATATTGG 51815

Qy    838 atacgccgtttttccgacgcagtatctgtttatgtacaaccgctataaaaacgccgtaa 894
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Db  51814 ATACGCCGTTTTTCCGACGCAGTATCTGTTTATGTACAACCGCTACAAAATGCCGTAA 51758


RESULT   6
AAF21612
ID   AAF21612 standard; DNA; 349980 BP.
XX
AC   AAF21612;
XX
DT   13-MAR-2001  (first entry)
XX
DE   Neisseria meningitidis B nucleotide sequence SEQ ID NO:113.
XX
KW   Neisseria meningitidis; Neisseria gonorrheae; immunogenic; vaccine;
KW   diagnosis; antigen; detection; infection; gene therapy; antibacterial;
KW   ds.
XX
OS   Neisseria meningitidis.
XX
PN   WO200066791-A1.
XX
PD   09-NOV-2000.
XX
PF   08-MAR-2000; 2000WO-US05928.
XX
PR   30-APR-1999;   99US-0132068.
PR   08-OCT-1999;   99WO-US23573.
PR   28-FEB-2000; 2000GB-0004695.
XX
PA   (CHIR ) CHIRON CORP.
PA   (GENO-) INST GENOMIC RES.
XX
PI   Pizza M,  Hickey E,  Peterson J,  Tettelin H,  Venter JC,  Masignani V;
PI   Galeotti C,  Mora M,  Ratti G,  Scarselli M,  Scarlato V,  Rappuoli R;
PI   Frazer CM,  Grandi G;
XX
DR   WPI; 2000-647603/62.
XX
PT   Neisseria meningitidis B full length genome sequence and open reading
PT   frames are used to detect, treat and prevent Neisserial infections -
XX
PS   Claim 7; Appendix A; 692pp; English.
XX
CC   The present invention describes the full length genome of
CC   Neisseria meningitidis B (NMB). The sequences in AAF21544 and AAF21607
CC   to AAF21613 represent fragments of the NMB genomic sequence, as the
CC   sequence was too long to go in a record on its own it was split into 8
CC   sequences which overlap each other at the beginning and end of each
CC   sequence by 49980 bp (i.e. the last 49980 bp of AAF21544 is repeated at
CC   the beginning  of AAF21607, the last 49980 bp of AAF21607 are repeated at
CC   the beginning of AAF21608, and so on). AAF21545 to AAF21588 encode the
CC   Neisseria proteins given in AAB58550 to AAB58593, and AAF21589 to
CC   AAF21606 represent PCR primers which are used in the exemplification of
CC   the present invention. The NMB genome and fragments from it have
CC   antibacterial activity, and can be used in vaccines and gene therapy.
CC   Neisseria nucleic acids, proteins and/or antibodies which binds to the
CC   proteins can be used in compositions for treating or preventing infection
CC   due to Neisserial bacteria or as a diagnostic reagent for detecting the
CC   presence of Neisserial bacteria or of antibodies raised to Neisserial
CC   bacteria. Computers, computer memory, computer storage medium or computer
CC   databases can be used in a search to identify open reading frames (ORFs)
CC   or coding sequences within the NMB genome. The DNA sequences provide
CC   further opportunities to find antigenic or immunogenic proteins which are
CC   more effective in vaccines than the outer membrane proteins currently
CC   used.
XX
SQ   Sequence 349980 BP; 86473 A; 95646 C; 85908 G; 81953 T; 0 other;


  Query Match             90.3%;  Score 807.4;  DB 21;  Length 349980;
  Best Local Similarity   94.5%;  Pred. No. 3.5e-220;
  Matches  848;  Conservative    0;  Mismatches   46;  Indels    3;  Gaps    1;

Qy      1 atgtttcgtttacaattcaggctgtttcccccttgcgaaccgccatgcacatcctgttg 60
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Db  89000 atgtttcgtttacaattcaggctgtttcccccttgcgaaccgccatgcacatcctgttg 89059

Qy     61 accgccctgctcaaatgcctctccctgctgtcgctttcctgtctgcacacgctgggaaac 120
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Db  89060 accgccctgctcaaatgcctctccctgctgccgctttcctgtctgcacacgctgggaaac 89119

Qy    121 cggctcggacatctggcgttttaccttttaaaggaagaccgcgcgcgcatcgtcgccaat 180
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db  89120 cggctcggacatctggcgttttaccttttaaaggaagaccgcgcgcgcatcgtcgccaat 89179
```

```
Qy     181 atgcggcaggcgggtttgaaccccgacacgcagacggtcaaagccgtttttgcggaaacg 240
           ||||||||||||||||||||||||||||| | | ||||||||||||||||||||||||||||
Db   89180 atgcggcaggcgggtttgaaccccgaccccaaaacggtcaaagccgtttttgcggaaacg 89239

Qy     241 gcaaaatgcggtttggaacttgccccgcgtttttcaaaaaaccggaagacatcgaaaca 300
           |||||| |||||||||||||||||||||||||||||| |||||||||||||| ||||||
Db   89240 gcaaaaggcggtttggaacttgccccgcgtttttcagaaaaccggaagacatagaaaca 89299

Qy     301 atgttcaaagcggtacacggctgggaacacgtgcagcaggctttggacaagggcgaaggg 360
           |||||||||||||||||||||||||||||| ||||||||||||||||||||   |||||||
Db   89300 atgttcaaagcggtacacggctgggaacatgtgcagcaggctttggacaaacacgaaggg 89359

Qy     361 ctgctgttcatcacgccgcacatcggcagctacgatttgggcggacgctacatcagccag 420
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Db   89360 ctgctattcatcacgccgcacatcggcagctacgatttgggcggacgctacatcagccag 89419

Qy     421 cagcttccgttccacctgaccgccatgtacaagccgccgaaaatcaaagcgatagacaaa 480
           ||||||||||||  |||||||||||||||||| ||||||||||||||||||||||||||||
Db   89420 cagcttccgttcccgctgaccgccatgtacaaaccgccgaaaatcaaagcgatagacaaa 89479

Qy     481 atcatgcaggcgggcagggtgcgcggcaaaggcaaaaccgcgcccaccggcatacaaggg 540
           |||||||||||||||||| |||||||||| |||||||||| ||| ||||||||||||
Db   89480 atcatgcaggcgggcagggttcgcggcaaaggaaaaaccgcgcctaccagcatacaaggg 89539

Qy     541 gtcaaacaaatcatcaaggccctgcgcgcgggcgaggcaaccatcatcctgcccgaccac 600
           |||||||||||||||| |||||||| ||||||| ||||||||| ||||||||||||||
Db   89540 gtcaaacaaatcatcaaagccctgcgttcgggcgaagcaaccatcgtcctgcccgaccac 89599

Qy     601 gtcccttctccgcaggaaggcgg---cggcgtgtgggcggatttttttcggcaaacctgca 657
           ||||| || || || |||||||||    ||||| |||| |||||| ||||||||||||||
Db   89600 gtcccctcccctcaagaaggcggggaaggcgtatgggtggatttcttcggcaaacctgcc 89659

Qy     658 tacaccatgacactggcggcaaaattggcacacgtcaaaggcgtgaaaaccctgtttttc 717
           || |||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Db   89660 tataccatgacgctggcggcaaaattggcacacgtcaaaggcgtgaaaaccctgtttttc 89719

Qy     718 tgctgcgaacgcctgcccgacggacaaggcttcgtgttgcacatccgccccgtccaaggg 777
           |||||||||||||||| | ||||||||| |||| ||||||||||||||||||||||||||
Db   89720 tgctgcgaacgcctgcctggcggacaaggtttcgatttgcacatccgccccgtccaaggg 89779

Qy     778 gaattgaacggcaacaaagcccacgatgccgccgtgttcaaccgcaataccgaatattgg 837
           |||||||||||| |||||||||| ||||||||||||||||||||| ||||||||||||
Db   89780 gaattgaacggcgacaaagcccatgatgccgccgtgttcaaccgcaatgccgaatattgg 89839

Qy     838 atacgccgttttccgacgcagtatctgtttatgtacaaccgctataaaacgccgtaa 894
           ||||||||||||||||||||||||||||||||||||||||||||| |||| |||||||
Db   89840 atacgccgttttccgacgcagtatctgtttatgtacaaccgctacaaaatgccgtaa 89896
```

RESULT 7
AAA81489
ID AAA81489 standard; DNA; 837096 BP.
XX
AC AAA81489;
XX
DT 04-DEC-2000 (first entry)
XX
DE N. meningitidis partial DNA sequence gnm_37 SEQ ID NO:37.
XX
KW Neisseria meningitidis; Neisseria gonorrheae; genome; immunogenic;
KW antigen; vaccine; diagnosis; infection; antibacterial; identification;
KW Meningococcus B; MenB; ds.
XX
OS Neisseria meningitidis.
XX
PN WO200022430-A2.
XX
PD 20-APR-2000.
XX
PF 08-OCT-1999; 99WO-US23573.
XX
PR 09-OCT-1998; 98US-0103794.
PR 30-APR-1999; 99US-0132068.
XX
PA (CHIR) CHIRON CORP.
XX
PI Frazer CM, Hickey E, Peterson J, Tettelin H, Venter JC;
PI Masignani V, Galeotti C, Mora M, Ratti G, Scarselli M, Scarlato V;
PI Rappuoli R, Pizza M;
XX
DR WPI; 2000-318079/27.
XX
PT Isolated nucleotide sequences of Neisseria meningitidis which can be
PT used in the diagnosis and treatment of N. meningitidis infection and
PT other Neisserial infections, for example, N.gonorrhoea -
XX
PS Claim 7; Page 629-865; 1760pp; English.
XX
CC The present invention describes methods of obtaining immunogenic
CC proteins from Neisseria genomic sequences. AAA81453 to AAA82414
CC represent specifically claimed Neisseria meningitidis genomic DNA
CC sequences; AAA81260 to AAA81303 and AAB25620 to AAB25663 represent
CC Neisseria DNA sequences and their corresponding proteins; AAA81254 to
CC AAA81259 and AAA81304 to AAA81321 represent PCR primers used in the
CC isolation of Neisseria meningitidis DNA sequences; and AAA81322 to
CC AAA81452 represent Neisseria meningitidis MenB polynucleotide ORF
CC sequences, which are all used in the exemplification of the present
CC invention. The nucleic acid sequences, protein sequences, and antibodies
CC against them, can be used in the manufacture of a composition. The
CC composition can be used as a medicament (or in the manufacture of a
CC medicament) for treating, preventing or diagnosing infection due to
CC Neisserial bacteria. For example, some of the identified proteins could
CC be components of vaccines against Meningococcus B; against all serotypes;
CC and/or against all pathogenic Neissariae. Identification of sequences
CC from the bacterium will also facilitate production of biological probes,
CC particularly organism-specific probes. Attempts to make efficacious
CC Meningococcus B vaccines have failed mainly due to antigen tolerance.
CC Multivalent vaccines have also been tried but none have successfully
CC overcome antigenic variability. The provision of further, complete
CC sequences may provide an opportunity to identify secreted or surface
CC exposed proteins that may be presumed targets for the immune system and
CC which are not antigenically variable or at least more conserved than
CC other more variable regions.
XX
SQ Sequence 837096 BP; 207534 A; 227065 C; 205215 G; 197280 T; 2 other;

Query Match 90.3%; Score 807.4; DB 21; Length 837096;
Best Local Similarity 94.5%; Pred. No. 5e-220;
Matches 848; Conservative 0; Mismatches 46; Indels 3; Gaps 1;

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Db  453771 atgtttcgtttacaattcaggctgtttccccctttgcgaaccgccatgcacatcctgttg 453830

Qy      61 accgccctgctcaaatgcctctccctgctgtcgctttcctgtctgcacacgctgggaaac 120
           |||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||
Db  453831 accgccctgctcaaatgcctctccctgctgccgctttcctgtctgcacacgctgggaaac 453890

Qy     121 cggctcggacatctggcgttttaccttttaaaggaagaccgcgcgcgcatcgtcgccaat 180
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Db  453891 cggctcggacatctggcgttttaccttttaaaggaagaccgcgcgcgcatcgtcgccaat 453950

Qy     181 atgcggcaggcgggtttgaaccccgacacgcagacggtcaaagccgtttttgcggaaacg 240
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Db  453951 atgcggcaggcgggtttgaaccccgaccccaaaacggtcaaagccgtttttgcggaaacg 454010

Qy     241 gcaaaatgcggtttggaacttgccccgcgtttttcaaaaaaccggaagacatcgaaaca 300
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Db  454011 gcaaaaggcggtttggaacttgccccgcgtttttcagaaaaccggaagacatagaaaca 454070

Qy     301 atgttcaaagcggtacacggctgggaacacgtgcagcaggctttggacaagggcgaaggg 360
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Db  454071 atgttcaaagcggtacacggctgggaacatgtgcagcaggctttggacaaacacgaaggg 454130

Qy     361 ctgctgttcatcacgccgcacatcggcagctacgatttgggcggacgctacatcagccag 420
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Db 454131 ctgctattcatcacgccgcacatcggcagctacgatttgggcggacgctacatcagccag 454190

Qy    421 cagcttccgttccacctgaccgccatgtacaagccgccgaaaatcaaagcgatagacaaa 480
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Db 454191 cagcttccgttcccgctgaccgccatgtacaaaccgccgaaaatcaaagcgatagacaaa 454250

Qy    481 atcatgcaggcgggcagggtgcgcggcaaaggcaaaaccgcgcccaccggcatacaaggg 540
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Db 454251 atcatgcaggcgggcagggttcgcggcaaaggaaaaaccgcgcctaccagcatacaaggg 454310

Qy    541 gtcaaacaaatcatcaaggccctgcgcgcgggcgaggcaaccatcatcctgcccgaccac 600
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Qy    601 gtcccttctccgcaggaaggcgg---cggcgtgtgggcggatttttcggcaaacctgca 657
          ||||| || || || ||||||||    ||||| |||| |||||| ||||||||||||||
Db 454371 gtcccctccccgcaagaaggcggggaaggcgtatgggtggatttcttcggcaaacctgcc 454430

Qy    658 tacaccatgacactggcggcaaaattggcacacgtcaaaggcgtgaaaaccctgtttttc 717
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Qy    718 tgctgcgaacgcctgcccgacggacaaggcttcgtgttgcacatccgccccgtccaaggg 777
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Qy    778 gaattgaacggcaacaaagcccacgatgccgccgtgttcaaccgcaataccgaatattgg 837
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Qy    838 atacgccgttttccgacgcagtatctgtttatgtacaaccgctataaaacgccgtaa 894
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Db 454611 atacgccgttttccgacgcagtatctgtttatgtacaaccgctacaaaatgccgtaa 454667
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RESULT 8
AAZ12218
ID AAZ12218 standard; DNA; 897 BP.
XX
AC AAZ12218;
XX
DT 08-OCT-1999 (first entry)
XX
DE Neisseria meningitidis strain A complete ORF138 sequence.
XX
KW Neisseria meningitidis; Neisseria gonorrhoeae; antigen; vaccine;
KW treatment; Neisseria infection; meningitis; septicaemia; gonorrhea; ss.
XX
OS Neisseria meningitidis.
XX
PN WO9924578-A2.
XX
PD 20-MAY-1999.
XX
PF 09-OCT-1998; 98WO-IB01665.
XX
PR 01-SEP-1998; 98GB-0019016.
PR 06-NOV-1997; 97GB-0023516.
PR 14-NOV-1997; 97GB-0024190.
PR 18-NOV-1997; 97GB-0024386.
PR 27-NOV-1997; 97GB-0025158.
PR 10-DEC-1997; 97GB-0026147.
PR 14-JAN-1998; 98GB-0000759.
XX
PA (CHIR-) CHIRON SPA.
XX
PI Grandi G, Masignani V, Pizza M, Rappuoli R, Scarlato V;
XX
DR WPI; 1999-327407/27.
DR P-PSDB; AAY38783.
XX
PT Proteins from Neisseria meningitidis and N. gonorrhoeae useful for
PT diagnosis, treatment and prevention of infection
XX
PS Claim 9; Page 326-327; 524pp; English.
XX
CC Nucleotide sequences AAZ11972-Z12358 represent open reading frames
CC (ORFs) of Neisseria meningitidis and N. gonorrhoeae which encode
CC antigenic proteins (see AAY38499-Y38944). The antigenic proteins, their
CC fragments, their nucleic acids and antibodies are used for diagnosis,
CC prevention (as vaccines) or treatment of Neisseria infections,
CC such as meningitis, septicaemia and gonorrhea. Both organisms
CC are closely related. Fragments of the nucleic acids are useful
CC as hybridisation probes and antisense reagents.
XX
SQ Sequence 897 BP; 225 A; 266 C; 225 G; 181 T; 0 other;

Query Match 89.4%; Score 799.4; DB 20; Length 897;
Best Local Similarity 94.0%; Pred. No. 6.4e-219;
Matches 843; Conservative 0; Mismatches 51; Indels 3; Gaps 1;

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Db      1 atgtttcgtttacaattcaggctgtttccccctttgcgaaccgccatgcacatcctgttg 60

Qy     61 accgccctgctcaaatgcctctccctgctgtcgctttcctgtctgcacacgctgggaaac 120
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Db     61 accgccctgctcaaatgcctctccctgctgccgctttcctgtctgcacacgctgggaaac 120

Qy    121 cggctcggacatctggcgttttacctttaaaggaagaccgcgcgcgcatcgtcgccaat 180
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Db    121 cggctcggacatctggcgttttacctttaaaggaagaccgcgcgcgcatcgtcgccaat 180

Qy    181 atgcggcaggcgggtttgaaccccgacacgcagacggtcaaagccgtttttgcggaaacg 240
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Qy    241 gcaaaatgcggtttggaacttgcccccgcgtttttcaaaaaaccggaagacatcgaaaca 300
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Db    241 gcaaaaggcggtttggaacttgcccccgcgtttttcagaaaaccggaagacatagaaaca 300

Qy    301 atgttcaaagcggtacacggctgggaacacgtgcagcaggctttggacaagggcgaaggg 360
          |||||||||||||||||||||||||||||| ||||||||||||||||||   |||||||
Db    301 atgttcaaagcggtacacggctgggaacatgtgcagcaggctttggacaaacacgaaggg 360

Qy    361 ctgctgttcatcacgccgcacatcggcagctacgatttgggcggacgctacatcagccag 420
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Db    361 ctgctattcatcacgccgcacatcggcagctacgatttgggcggacgctacatcagccag 420

Qy    421 cagcttccgttccacctgaccgccatgtacaagccgccgaaaatcaaagcgatagacaaa 480
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Db    421 cagcttccgttcccgctgaccgccatgtacaaaccgccgaaaatcaaagcgatagacaaa 480

Qy    481 atcatgcaggcgggcagggtgcgcggcaaaggcaaaaccgcgcccaccggcatacaaggg 540
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Db    481 atcatgcaggcgggcagggttcgcggcaaaggaaaaaccgcgcctaccagcatacaaggg 540

Qy    541 gtcaaacaaatcatcaaggccctgcgcgcgggcgaggcaaccatcatcctgcccgaccac 600
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Db    541 gtcaaacaaatcatcaaagccctgcgttcgggcgaagcaaccatcgtcctgcccgaccac 600

Qy    601 gtcccttctccgcaggaaggcgg---cggcgtgtgggcggatttttcggcaaacctgca 657
          ||||| || || || ||||||||    ||||| |||| |||||| ||||||||||||||
Db    601 gtcccctccccgcaagaaggcggggaaggcgtatgggtggatttcttcggcaaacctgcc 660

Qy    658 tacaccatgacactggcggcaaaattggcacacgtcaaaggcgtgaaaaccctgtttttc 717
          || |||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Db    661 tataccatgacgctggcggcaaaattggcacacgtcaaaggcgtgaaaaccctgtttttc 720

Qy    718 tgctgcgaacgcctgcccgacggacaaggcttcgtgttgcacatccgccccgtccaaggg 777
          |||||||||||||||| | |||||||| |||| ||||||||||||||||||||||||||
Db    721 tgctgcgaacgcctgcctggcggacaaggtttcgatttgcacatccgccccgtccaaggg 780

Qy    778 gaattgaacggcaacaaagcccacgatgccgccgtgttcaaccgcaataccgaatattgg 837
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Db    781 gaattgaacggcgacaaagcccatgatgccgccgtgttcaaccgcaatgccgaatattgg 840

Qy    838 atacgccgttttccgacgcagtatctgtttatgtacaaccgctataaaacgccgtaa 894
          ||||||||||||||||||||||||||||||||||||||||||||| |||| |||||||
Db    841 atacgccgttttccgacgcagtatctgtttatgtacaaccgctacaaaatgccgtaa 897


RESULT  9
AAZ53711
ID   AAZ53711 standard; DNA; 897 BP.
XX
AC   AAZ53711;
XX
DT   21-MAR-2000  (first entry)
XX
DE   Neisseria meningitidis ORF 505 partial DNA sequence SEQ ID NO:1371.
XX
KW   Neisseria meningitidis; Neisseria gonorrheae; antigen; vaccine;
KW   antigenic; diagnosis; immunogenic; infection; meningitis; septicaemia;
KW   antibacterial; gene therapy; ds.
XX
OS   Neisseria meningitidis.
XX
PN   WO9957280-A2.
XX
PD   11-NOV-1999.
XX
PF   30-APR-1999;   99WO-US09346.
XX
PR   01-MAY-1998;   98US-0083758.
PR   31-JUL-1998;   98US-0094869.
PR   02-SEP-1998;   98US-0098994.
PR   02-SEP-1998;   98US-0099062.
PR   09-OCT-1998;   98US-0103749.
PR   09-OCT-1998;   98US-0103794.
PR   09-OCT-1998;   98US-0103796.
PR   25-FEB-1999;   99US-0121528.
XX
PA   (CHIR ) CHIRON CORP.
PA   (GENO-) INST GENOMIC RES.
XX
PI   Fraser C, Galeotti C, Grandi G, Hickey E, Masignani V, Mora M;
PI   Petersen J, Pizza M, Rappuoli R, Ratti G, Scalato E, Scarselli M;
PI   Tettelin H, Venter JC;
XX
DR   WPI; 2000-062150/05.
DR   P-PSDB; AAY74949.
XX
PT   Novel Neisserial polypeptides predicted to be useful antigens for
PT   vaccines and diagnostics -
XX
PS   Claim 7; Page 746; 1453pp; English.
XX
CC   AAZ53015 to AAZ54536, AAZ54577 to AAZ54615, and AAY74253 to AAY75941
CC   represent novel Neisseria meningitis and N. gonorrheae polynucleotides
CC   and polypeptides. AAZ54537 to AAZ54576 and AAZ54616 to AAZ55473 represent
CC   PCR primers used in the exemplification of the present invention. The
CC   polypeptides, the polynucleotides, antibodies and compositions of
CC   the invention can be used as vaccines, as diagnostic reagents, and as
CC   immunogenic compositions. The polypeptides can be used in the
CC   manufacture of medicaments for treating or preventing infection due to
CC   Neisserial bacteria (e.g. meningitis and septicaemia), to detect the
CC   presence of Neisseria bacteria, or to raise antibodies. They may also
CC   be used to screen for agonists or antagonists, which may themselves
CC   have use as antibacterial agents. The polynucleotides of the invention
CC   may also be used in gene therapy protocols.
XX
SQ   Sequence 897 BP; 225 A; 266 C; 225 G; 181 T; 0 other;


 Query Match             89.4%;  Score 799.4;  DB 21;  Length 897;
 Best Local Similarity   94.0%;  Pred. No. 6.4e-219;
 Matches  843;  Conservative    0;  Mismatches   51;  Indels    3;  Gaps    1;

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Qy     61 accgccctgctcaaatgcctctccctgctgtcgctttcctgtctgcacacgctgggaaac 120
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Db     61 accgccctgctcaaatgcctctccctgctgccgctttcctgtctgcacacgctgggaaac 120

Qy    121 cggctcggacatctggcgttttacctttaaaggaagaccgcgcgcgcatcgtcgccaat 180
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    121 cggctcggacatctggcgttttacctttaaaggaagaccgcgcgcgcatcgtcgccaat 180

Qy    181 atgcggcaggcgggtttgaaccccgacacgcagacggtcaaagccgtttttgcggaaacg 240
          ||||| ||||| ||  |||| ||||||  |  | ||||||||||||||||||||||||||||
Db    181 atgcgtcaggcaggcatgaatcccgaccccaaaacggtcaaagccgtttttgcggaaacg 240

Qy    241 gcaaaatgcggtttggaacttgccccccgcgtttttcaaaaaaccggaagacatcgaaaca 300
          |||||| ||||||||||||||||||||||||||||||| ||||||||||||||| ||||||
Db    241 gcaaaaggcggtttggaacttgcccccgcgtttttcagaaaaccggaagacatagaaaca 300

Qy    301 atgttcaaagcggtacacggctgggaacacgtgcagcaggctttggacaagggcgaaggg 360
          |||||||||||||||||||||||||||||| ||||||||||||||||||   |||||||
Db    301 atgttcaaagcggtacacggctgggaacatgtgcagcaggctttggacaaacacgaaggg 360

Qy    361 ctgctgttcatcacgccgcacatcggcagctacgatttgggcggacgctacatcagccag 420
          ||||| ||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    361 ctgctattcatcacgccgcacatcggcagctacgatttgggcggacgctacatcagccag 420

Qy    421 cagcttccgttccacctgaccgccatgtacaagccgccgaaaatcaaagcgatagacaaa 480
          |||||||||||||  ||||||||||||||||| ||||||||||||||||||||||||||||
Db    421 cagcttccgttcccgctgaccgccatgtacaaaccgccgaaaatcaaagcgatagacaaa 480

Qy    481 atcatgcaggcgggcagggtgcgcggcaaaggcaaaaccgcgcccaccggcatacaaggg 540
          |||||||||||||||||| |||||||||| |||||||||| ||| ||||||||||
Db    481 atcatgcaggcgggcagggttcgcggcaaaggaaaaaccgcgcctaccagcatacaaggg 540

Qy    541 gtcaaacaaatcatcaaggccctgcgcgcgggcgaggcaaccatcatcctgcccgaccac 600
          |||||||||||||||| |||||||  |||||| |||||||| ||||||||||||||
Db    541 gtcaaacaaatcatcaaagccctgcgttcgggcgaagcaaccatcgtcctgcccgaccac 600

Qy    601 gtcccttctccgcaggaaggcgg---cggcgtgtgggcggatttttcggcaaacctgca 657
          ||||| || || || ||||||||    ||||| |||| |||||| ||||||||||||||
Db    601 gtcccctccctcaagaaggcggggaaggcgtatgggtggatttcttcggcaaacctgcc 660

Qy    658 tacaccatgacactggcggcaaaattggcacacgtcaaaggcgtgaaaaccctgtttttc 717
          || |||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Db    661 tataccatgacgctggcggcaaaattggcacacgtcaaaggcgtgaaaaccctgttttc 720

Qy    718 tgctgcgaacgcctgcccgacggacaaggcttcgtgttgcacatccgccccgtccaaggg 777
          |||||||||||||||| | |||||||| |||| ||||||||||||||||||||||||||
Db    721 tgctgcgaacgcctgcctggcggacaaggtttcgatttgcacatccgccccgtccaaggg 780

Qy    778 gaattgaacggcaacaaagcccacgatgccgccgtgttcaaccgcaataccgaatattgg 837
          ||||||||||| |||||||||| |||||||||||||||||||||||||||| ||||||||||
Db    781 gaattgaacggcgacaaagcccatgatgccgccgtgttcaaccgcaatgccgaatattgg 840

Qy    838 atacgccgttttccgacgcagtatctgtttatgtacaaccgctataaaacgccgtaa 894
          ||||||||||||||||||||||||||||||||||||||||||||| |||| |||||||
Db    841 atacgccgttttccgacgcagtatctgtttatgtacaaccgctacaaaatgccgtaa 897


RESULT  10
AAF91451
ID   AAF91451 standard; DNA; 894 BP.
XX
AC   AAF91451;
XX
DT   04-MAY-2001  (first entry)
XX
DE   N. meningitidis (serogroup B) HtrB gene coding region, SEQ ID:77.
XX
```

```
KW   Modified Gram-negative bacterium; outer membrane vesicle; bleb; vaccine;
KW   genetically modified; protective antigen expression; LPS detoxification;
KW   LPS; lipid A; homologous recombination vector; immunisation;
KW   immunoprotective; non-toxic; paediatric; HtrB; ds.
XX
OS   Neisseria meningitidis.
XX
PN   WO200109350-A2.
XX
PD   08-FEB-2001.
XX
PF   31-JUL-2000; 2000WO-EP07424.
XX
PR   03-AUG-1999;   99GB-0018319.
XX
PA   (SMIK ) SMITHKLINE BEECHAM BIOLOGICALS.
XX
PI   Berthet FJ,  Dalemans WLJ,  Denoel P,  Dequesne G,  Feron C,  Lobet Y;
PI   Poolman J,  Thiry G,  Thonnard J,  Voet P;
XX
DR   WPI; 2001-138654/14.
DR   P-PSDB; AAB60652.
XX
PT   New isolated polynucleotide useful for outer membrane vesicle
PT   preparation from Gram-negative bacterial strain for vaccination of
PT   microbial infections -
XX
PS   Claim 46; Page 97-98; 128pp; English.
XX
CC   The invention relates to a genetically-engineered outer membrane vesicle
CC   (bleb) preparation from a Gram-negative bacterium for use as a vaccine.
CC   The blebs of the invention are improved with respect to their
CC   immunogenicity and toxicity by the introduction of one or more genetic
CC   changes to the chromosome of the bacterium  from which the blebs are
CC   derived. The changes made include the upregulation of protective antigen
CC   expression, the downregulation of immunodominant non-protective antigen
CC   expression, and genetic changes which result in detoxification of the
CC   Lipid A moiety of lipopolysaccharide (LPS). The invention also
CC   encompasses modified Gram-negative bacterial strains from which the bleb
CC   preparations are made, a vector suitable for performing recombination
CC   events (for the generation of the modified bacterial strains),
CC   bacterially-derived nucleic acid sequences used in such a vector, and an
CC   immunoprotective and non-toxic Gram-negative bleb, ghost, or killed whole
CC   cell vaccine suitable for paediatric use. The bleb preparation is useful
CC   in the manufacture of a medicament for immunising a human host against a
CC   disease caused by infection of one or more of the following: Neisseria
CC   meningitidis, Neisseria gonorrhoeae, Haemophilus influenza, Moraxella
CC   catarrhalis, Pseudomonas aeruginosa, Chlamydia trachomatis, and Chlamydia
CC   pneumonia. The invention may also be used to provide immunisation against
CC   the influenza virus. Bacterially derived nucleotide sequences of the
CC   invention are used in the performance of homologous recombination events
CC   up to 1000 bp upstream of a bacterial chromosomal gene in order to either
CC   increase or decrease expression of that gene. Immunoprotective and
CC   non-toxic Gram-negative bleb, ghost, or killed whole cell vaccines
CC   are more immunogenic, less toxic and safer, and are particularly useful
CC   for paediatric use. The present sequence represents the specifically
CC   claimed Neisseria meningitidis HtrB coding sequence.
XX
SQ   Sequence 894 BP; 224 A; 266 C; 224 G; 180 T; 0 other;

  Query Match             88.5%;  Score 791.6;  DB 22;  Length 894;
  Best Local Similarity   93.6%;  Pred. No. 1.1e-216;
  Matches  837;  Conservative    0;  Mismatches   54;  Indels    3;  Gaps    1;

Qy       1 atgtttcgtttacaattcaggctgtttccccctttgcgaaccgccatgcacatcctgttg 60
           ||||||||||||||||||| ||||||||||||||||||||||||||||||||||||||||
Db       1 atgtttcgtttacaattcgggctgtttccccctttgcgaaccgccatgcacatcctgttg 60

Qy      61 accgccctgctcaaatgcctctccctgctgtcgctttcctgtctgcacacgctgggaaac 120
           |||||||||||||||||||||||||||||| | ||||||||||||||||||||||||||||
Db      61 accgccctgctcaaatgcctctccctgctgccactttcctgtctgcacacgctgggaaac 120

Qy     121 cggctcggacatctggcgttttacctttaaaggaagaccgcgcgcgcatcgtcgccaat 180
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     121 cggctcggacatctggcgttttacctttaaaggaagaccgcgcgcgcatcgtcgccaat 180

Qy     181 atgcggcaggcgggtttgaaccccgacacgcagacggtcaaagccgtttttgcggaaacg 240
           ||||| ||||| ||  |||| |||||| |  | || ||||||||||||||||||||||||
Db     181 atgcgtcaggcaggcatgaatcccgaccccaaaacagtcaaagccgtttttgcggaaacg 240

Qy     241 gcaaaatgcggtttggaacttgcccccgcgtttttcaaaaaaccggaagacatcgaaaca 300
           |||||| ||||||||||||||||||||||||||||||| ||||||||||||||| ||||||
Db     241 gcaaaaggcggtttggaacttgcccccgcgtttttcagaaaaccggaagacatagaaaca 300

Qy     301 atgttcaaagcggtacacggctgggaacacgtgcagcaggctttggacaagggcgaaggg 360
           |||||||||||||||||||||||||||| ||||||||||||||||||||   |||||||
Db     301 atgttcaaagcggtacacggctgggaacatgtgcagcaggctttggacaaacacgaaggg 360

Qy     361 ctgctgttcatcacgccgcacatcggcagctacgatttgggcggacgctacatcagccag 420
           ||||| ||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     361 ctgctattcatcacgccgcacatcggcagctacgatttgggcggacgctacatcagccag 420

Qy     421 cagcttccgttccacctgaccgccatgtacaagccgccgaaaatcaaagcgatagacaaa 480
           |||||||||||||  |||||||||||||||||| ||||||||||||||||||||||||||
Db     421 cagcttccgttcccgctgaccgccatgtacaaaccgccgaaaatcaaagcgatagacaaa 480

Qy     481 atcatgcaggcgggcagggtgcgcggcaaaggcaaaaccgcgcccaccggcatacaaggg 540
           |||||||||||||||||||| |||||||||| |||||||||| ||| ||||||||||||
Db     481 atcatgcaggcgggcagggttcgcggcaaaggaaaaaccgcgcctaccagcatacaaggg 540

Qy     541 gtcaaacaaatcatcaaggccctgcgcgcgggcgaggcaaccatcatcctgcccgaccac 600
           |||||||||||||||| |||||||| ||||||| ||||||||| ||||||||||||||
Db     541 gtcaaacaaatcatcaaagccctgcgttcgggcgaagcaaccatcgtcctgcccgaccac 600

Qy     601 gtcccttctccgcaggaaggcgg---cggcgtgtgggcggatttttttcggcaaacctgca 657
           ||||| || || || ||||||||    ||||| |||| |||||| ||||||||||||||
Db     601 gtcccctcccctcaagaaggcggggaaggcgtatgggtggatttcttcggcaaacctgcc 660

Qy     658 tacaccatgacactggcggcaaaattggcacacgtcaaaggcgtgaaaaccctgtttttc 717
           || |||||||| ||||||||||||||||||||||||||||||||||||||||||||||||
Db     661 tataccatgacgctggcggcaaaattggcacacgtcaaaggcgtgaaaaccctgtttttc 720

Qy     718 tgctgcgaacgcctgcccgacggacaaggcttcgtgttgcacatccgccccgtccaaggg 777
           |||||||||||||||| | |||||||| |||| ||||||||||||||||||||||||||
Db     721 tgctgcgaacgcctgcctggcggacaaggtttcgatttgcacatccgccccgtccaaggg 780

Qy     778 gaattgaacggcaacaaagcccacgatgccgccgtgttcaaccgcaataccgaatattgg 837
           |||||||||||| |||||||||| |||||||||||||||||||||||| ||||||||||
Db     781 gaattgaacggcgacaaagcccatgatgccgccgtgttcaaccgcaatgccgaatattgg 840

Qy     838 atacgccgttttccgacgcagtatctgtttatgtacaaccgctataaaacgccg 891
           |||||||||||||||||||||||||||||||||||||||||||| |||| ||||
Db     841 atacgccgttttccgacgcagtatctgtttatgtacaaccgctacaaaatgccg 894


RESULT  11
AAZ53710
ID   AAZ53710 standard; DNA; 866 BP.
XX
AC   AAZ53710;
XX
DT   21-MAR-2000  (first entry)
XX
DE   Neisseria meningitidis ORF 505 partial DNA sequence SEQ ID NO:1369.
XX
KW   Neisseria meningitidis; Neisseria gonorrheae; antigen; vaccine;
KW   antigenic; diagnosis; immunogenic; infection; meningitis; septicaemia;
KW   antibacterial; gene therapy; ds.
XX
OS   Neisseria meningitidis.
XX
PN   WO9957280-A2.
XX
PD   11-NOV-1999.
XX
```

```
PF   30-APR-1999;   99WO-US09346.
XX
PR   01-MAY-1998;   98US-0083758.
PR   31-JUL-1998;   98US-0094869.
PR   02-SEP-1998;   98US-0098994.
PR   02-SEP-1998;   98US-0099062.
PR   09-OCT-1998;   98US-0103749.
PR   09-OCT-1998;   98US-0103794.
PR   09-OCT-1998;   98US-0103796.
PR   25-FEB-1999;   99US-0121528.
XX
PA   (CHIR ) CHIRON CORP.
PA   (GENO-) INST GENOMIC RES.
XX
PI   Fraser C,  Galeotti C,  Grandi G,  Hickey E,  Masignani V,  Mora M;
PI   Petersen J,  Pizza M,  Rappuoli R,  Ratti G,  Scalato E,  Scarselli M;
PI   Tettelin H,  Venter JC;
XX
DR   WPI; 2000-062150/05.
DR   P-PSDB; AAY74948.
XX
PT   Novel Neisserial polypeptides predicted to be useful antigens for
PT   vaccines and diagnostics -
XX
PS   Claim 7; Page 744-745; 1453pp; English.
XX
CC   AAZ53015 to AAZ54536, AAZ54577 to AAZ54615, and AAY74253 to AAY75941
CC   represent novel Neisseria meningitis and N. gonorrheae polynucleotides
CC   and polypeptides. AAZ54537 to AAZ54576 and AAZ54616 to AAZ55473 represent
CC   PCR primers used in the exemplification of the present invention. The
CC   polypeptides, the polynucleotides, antibodies and compositions of
CC   the invention can be used as vaccines, as diagnostic reagents, and as
CC   immunogenic compositions. The polypeptides can be used in the
CC   manufacture of medicaments for treating or preventing infection due to
CC   Neisserial bacteria (e.g. meningitis and septicaemia), to detect the
CC   presence of Neisseria bacteria, or to raise antibodies. They may also
CC   be used to screen for agonists or antagonists, which may themselves
CC   have use as antibacterial agents. The polynucleotides of the invention
CC   may also be used in gene therapy protocols.
XX
SQ   Sequence 866 BP; 210 A; 260 C; 223 G; 172 T; 1 other;

  Query Match             85.3%;  Score 762.8;  DB 21;  Length 866;
  Best Local Similarity   94.4%;  Pred. No. 1.9e-208;
  Matches  812;  Conservative    1;  Mismatches   43;  Indels    4;  Gaps    2;

Qy      1 atgtttcgtttacaattcaggctgtttccccctttgcgaaccgccatgcacatcctgttg 60
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      4 atgtttcgtttacaattcaggctgtttccccctttgcgaaccgccatgcacatcctgttg 63

Qy     61 accgccctgctcaaatgcctctccctgctgtcgctttcctgtctgcacacgctgggaaac 120
          |||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||
Db     64 accgccctgctcaaatgcctctccctgctgccgctttcctgtctgcacacgctgggaaac 123

Qy    121 cggctcggacatctggcgttttacctttttaaaggaagaccgcgcgcgcatcgtcgccaat 180
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    124 cggctcggacatctggcgttttacctttttaaaggaagaccgcgcgcgcatcgtcgccaat 183

Qy    181 atgcggcaggcgggtttgaaccccgacacgcagacggtcaaagccgtttttgcggaaacg 240
          |||||||||||||||||||||||||| |  | ||||||||||||||||||||||||||||
Db    184 atgcggcaggcgggtttgaaccccgaccccaaaacggtcaaagccgtttttgcggaaacg 243

Qy    241 gcaaaatgcggtttggaacttgccccccgcgtttttcaaaaaaccggaagacatcgaaaca 300
          |||||| ||||||||||||||||||||||||||||| ||||||||||||||| ||||||
Db    244 gcaaaaggcggtttggaacttgcccccgcgtttttcagaaaaccggaagacatagaaaca 303

Qy    301 atgttcaaagcggtacacggctgggaacacgtgcagcaggctttggacaagggcgaaggg 360
          |||||||||||||||||||||||||||||| |||||||||||||||||||   |||||||
Db    304 atgttcaaagcggtacacggctgggaacatgtgcagcaggctttggacaaacacgaaggg 363

Qy    361 ctgctgttcatcacgccgcacatcggcagctacgatttgggcggacgctacatcagccag 420
          |||||| ||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    364 ctgctattcatcacgccgcacatcggcagctacgatttgggcggacgctacatcagccag 423

Qy    421 cagcttccgttccacctgaccgccatgtacaagccgccgaaaatcaaagcgatagacaaa 480
          |||||||||||||  ||||||||||||||||| ||||||||||||||||||||||||||
Db    424 cagcttccgttcccgctgaccgccatgtacaaaccgccgaaaatcaaagcgatagacaaa 483

Qy    481 atcatgcaggcgggcagggtgcgcggcaaaggcaaaaccgcgcccaccggcatacaaggg 540
          |||||||||||||||||||| |||||||||| |||||||||| ||| ||||||||||
Db    484 atcatgcaggcgggcagggttcgcggcaaaggaaaaaccgcgcctaccagcatacaaggg 543

Qy    541 gtcaaacaaatcatcaaggccctgcgcgcgggcgaggcaaccatcatcctgcccgaccac 600
          |||||||||||||||| |||||||| |||||| |||||||| ||||||||||||||
Db    544 gtcaaacaaatcatcaaagccctgcgttcgggcga-gcaaccatcgtcctgcccgaccac 602

Qy    601 gtcccttctccgcaggaaggcgg---cggcgtgtgggcggatttttcggcaaacctgca 657
          ||||| || || || ||||||||    ||||| |||| |||||| ||||||||||||||
Db    603 gtcccctcccctcaagaaggcggggaaggcgtatgggtggatttcttcggcaaacctgcc 662

Qy    658 tacaccatgacactggcggcaaaattggcacacgtcaaaggcgtgaaaaccctgtttttc 717
          || |||||||| ||||||||||:||||||||||||||||||||||||||||||||||||
Db    663 tataccatgacgctggcggcaaraattggcacacgtcaaaggcgtgaaaaccctgtttttc 722

Qy    718 tgctgcgaacgcctgcccgacggacaaggcttcgtgttgcacatccgccccgtccaaggg 777
          |||||||||||||||| | |||||||| |||| ||||||||||||||||||||||||||
Db    723 tgctgcgaacgcctgcctggcggacaaggtttcgatttgcacatccgccccgtccaaggg 782

Qy    778 gaattgaacggcaacaaagcccacgatgccgccgtgttcaaccgcaataccgaatattgg 837
          |||||||||||| |||||||||| ||||||||||||||||||||||| ||||||||||
Db    783 gaattgaacggcgacaaagcccatgatgccgccgtgttcaaccgcaatgccgaatattgg 842

Qy    838 atacgccgttttccgacgca 857
          ||||||||||||||||||||
Db    843 atacgccgttttccgacgca 862


RESULT  12
AAZ12216
ID   AAZ12216 standard; DNA; 369 BP.
XX
AC   AAZ12216;
XX
DT   08-OCT-1999  (first entry)
XX
DE   Neisseria meningitidis partial ORF138 sequence.
XX
KW   Neisseria meningitidis; Neisseria gonorrhoeae; antigen; vaccine;
KW   treatment; Neisseria infection; meningitis; septicaemia; gonorrhea; ss.
XX
OS   Neisseria meningitidis.
XX
PN   WO9924578-A2.
XX
PD   20-MAY-1999.
XX
PF   09-OCT-1998;   98WO-IB01665.
XX
PR   01-SEP-1998;   98GB-0019016.
PR   06-NOV-1997;   97GB-0023516.
PR   14-NOV-1997;   97GB-0024190.
PR   18-NOV-1997;   97GB-0024386.
PR   27-NOV-1997;   97GB-0025158.
PR   10-DEC-1997;   97GB-0026147.
PR   14-JAN-1998;   98GB-0000759.
XX
PA   (CHIR-) CHIRON SPA.
XX
PI   Grandi G,  Masignani V,  Pizza M,  Rappuoli R,  Scarlato V;
XX
DR   WPI; 1999-327407/27.
DR   P-PSDB; AAY38781.
XX
PT   Proteins from Neisseria meningitidis and N. gonorrhoeae useful for
PT   diagnosis, treatment and prevention of infection
```

XX
PS Claim 9; Page 325; 524pp; English.
XX
CC Nucleotide sequences AAZ11972-Z12358 represent open reading frames
CC (ORFs) of Neisseria meningitidis and N. gonorrhoeae which encode
CC antigenic proteins (see AAY38499-Y38944). The antigenic proteins, their
CC fragments, their nucleic acids and antibodies are used for diagnosis,
CC prevention (as vaccines) or treatment of Neisseria infections,
CC such as meningitis, septicaemia and gonorrhea. Both organisms
CC are closely related. Fragments of the nucleic acids are useful
CC as hybridisation probes and antisense reagents.
XX
SQ Sequence 369 BP; 84 A; 107 C; 93 G; 84 T; 1 other;

Query Match 38.9%; Score 347.8; DB 20; Length 369;
Best Local Similarity 96.2%; Pred. No. 1e-89;
Matches 355; Conservative 1; Mismatches 13; Indels 0; Gaps 0;

```
Qy      1 atgtttcgtttacaattcaggctgtttccccctttgcgaaccgccatgcacatcctgttg 60
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      1 atgtttcgtttacaattcaggctgtttccccctttgcgaaccgccatgcacatcctgttg 60

Qy     61 accgccctgctcaaatgcctctccctgctgtcgctttcctgtctgcacacgctgggaaac 120
          |||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||
Db     61 accgccctgctcaaatgcctctccctgctgccgctttcctgtctgcacacgctgggaaac 120

Qy    121 cggctcggacatctggcgttttacctttaaaggaagaccgcgcgcgcatcgtcgccaat 180
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||:||
Db    121 cggctcggacatctggcgttttacctttaaaggaagaccgcgcgcgcatcgtcgccmat 180

Qy    181 atgcggcaggcgggtttgaaccccgacacgcagacggtcaaagccgtttttgcggaaacg 240
          |||||||||||||||||||||||||| |  | ||||||||||||||||||||||||||||
Db    181 atgcggcaggcgggtttgaaccccgaccccaaaacggtcaaagccgtttttgcggaaacg 240

Qy    241 gcaaaatgcggtttggaacttgcccccgcgtttttcaaaaaaccggaagacatcgaaaca 300
          |||||| |||||||||||||||||||||||||||||| |||||||||||||| ||||||
Db    241 gcaaaaggcggtttggaacttgcccccgcgtttttcagaaaaccggaagacatagaaaca 300

Qy    301 atgttcaaagcggtacacggctgggaacacgtgcagcaggctttggacaagggcgaaggg 360
          |||||||||||||||||||||||||||||| ||||||||||||||||||   |||||||
Db    301 atgttcaaagcggtacacggctgggaacatgtgcagcaggctttggacaaacacgaaggg 360

Qy    361 ctgctgttc 369
          ||||| |||
Db    361 ctgctattc 369
```

RESULT 13
AAA81391
ID AAA81391 standard; DNA; 369 BP.
XX
AC AAA81391;
XX
DT 04-DEC-2000 (first entry)
XX
DE N. meningitidis MenB polynucleotide sequence ORF number 67.
XX
KW Neisseria meningitidis; Neisseria gonorrheae; genome; immunogenic;
KW antigen; vaccine; diagnosis; infection; antibacterial; identification;
KW Meningococcus B; MenB; ds.
XX
OS Neisseria meningitidis.
XX
PN WO200022430-A2.
XX
PD 20-APR-2000.
XX
PF 08-OCT-1999; 99WO-US23573.
XX
PR 09-OCT-1998; 98US-0103794.
PR 30-APR-1999; 99US-0132068.
XX
PA (CHIR) CHIRON CORP.
XX
PI Frazer CM, Hickey E, Peterson J, Tettelin H, Venter JC;
PI Masignani V, Galeotti C, Mora M, Ratti G, Scarselli M, Scarlato V;
PI Rappuoli R, Pizza M;
XX
DR WPI; 2000-318079/27.
XX
PT Isolated nucleotide sequences of Neisseria meningitidis which can be
PT used in the diagnosis and treatment of N. meningitidis infection and
PT other Neisserial infections, for example, N.gonorrhoea -
XX
PS Disclosure; Page 216; 1760pp; English.
XX
CC The present invention describes methods of obtaining immunogenic
CC proteins from Neisseria genomic sequences. AAA81453 to AAA82414
CC represent specifically claimed Neisseria meningitidis genomic DNA
CC sequences; AAA81260 to AAA81303 and AAB25620 to AAB25663 represent
CC Neisseria DNA sequences and their corresponding proteins; AAA81254 to
CC AAA81259 and AAA81304 to AAA81321 represent PCR primers used in the
CC isolation of Neisseria meningitidis DNA sequences; and AAA81322 to
CC AAA81452 represent Neisseria meningitidis MenB polynucleotide ORF
CC sequences, which are all used in the exemplification of the present
CC invention. The nucleic acid sequences, protein sequences, and antibodies
CC against them, can be used in the manufacture of a composition. The
CC composition can be used as a medicament (or in the manufacture of a
CC medicament) for treating, preventing or diagnosing infection due to
CC Neisserial bacteria. For example, some of the identified proteins could
CC be components of vaccines against Meningococcus B; against all serotypes;
CC and/or against all pathogenic Neissariae. Identification of sequences
CC from the bacterium will also facilitate production of biological probes,
CC particularly organism-specific probes. Attempts to make efficacious
CC Meningococcus B vaccines have failed mainly due to antigen tolerance.
CC Multivalent vaccines have also been tried but none have successfully
CC overcome antigenic variability. The provision of further, complete
CC sequences may provide an opportunity to identify secreted or surface
CC exposed proteins that may be presumed targets for the immune system and
CC which are not antigenically variable or at least more conserved than
CC other more variable regions.
XX
SQ Sequence 369 BP; 84 A; 107 C; 93 G; 84 T; 1 other;

Query Match 38.9%; Score 347.8; DB 21; Length 369;
Best Local Similarity 96.2%; Pred. No. 1e-89;
Matches 355; Conservative 1; Mismatches 13; Indels 0; Gaps 0;

```
Qy      1 atgtttcgtttacaattcaggctgtttccccctttgcgaaccgccatgcacatcctgttg 60
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      1 atgtttcgtttacaattcaggctgtttccccctttgcgaaccgccatgcacatcctgttg 60

Qy     61 accgccctgctcaaatgcctctccctgctgtcgctttcctgtctgcacacgctgggaaac 120
          |||||||||||||||||||||||||||||| ||||||||||||||||||||||||||||||
Db     61 accgccctgctcaaatgcctctccctgctgccgctttcctgtctgcacacgctgggaaac 120

Qy    121 cggctcggacatctggcgttttacctttaaaggaagaccgcgcgcgcatcgtcgccaat 180
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||:||
Db    121 cggctcggacatctggcgttttacctttaaaggaagaccgcgcgcgcatcgtcgccmat 180

Qy    181 atgcggcaggcgggtttgaaccccgacacgcagacggtcaaagccgtttttgcggaaacg 240
          |||||||||||||||||||||||||| |  | ||||||||||||||||||||||||||||
Db    181 atgcggcaggcgggtttgaaccccgaccccaaaacggtcaaagccgtttttgcggaaacg 240

Qy    241 gcaaaatgcggtttggaacttgcccccgcgtttttcaaaaaaccggaagacatcgaaaca 300
          |||||| |||||||||||||||||||||||||||||| |||||||||||||| ||||||
Db    241 gcaaaaggcggtttggaacttgcccccgcgtttttcagaaaaccggaagacatagaaaca 300

Qy    301 atgttcaaagcggtacacggctgggaacacgtgcagcaggctttggacaagggcgaaggg 360
          |||||||||||||||||||||||||||||| ||||||||||||||||||   |||||||
Db    301 atgttcaaagcggtacacggctgggaacatgtgcagcaggctttggacaaacacgaaggg 360

Qy    361 ctgctgttc 369
          ||||| |||
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Db    361 ctgctattc 369


RESULT 14
AAI69367
ID   AAI69367 standard; DNA; 2061 BP.
XX
AC   AAI69367;
XX
DT   18-FEB-2002  (first entry)
XX
DE   Streptomyces sp L-Glutamate oxidase DNA.
XX
KW   L-Glutamate oxidase; alpha-ketoglutarate; L-Glutamate; ds.
XX
OS   Streptomyces sp.
XX
FH   Key             Location/Qualifiers
FT   CDS             1..2052
FT                   /*tag= a
FT                   /product= "L-Glutamate oxidase"
FT                   /note= "Lacks start and stop codon"
XX
PN   WO200179503-A1.
XX
PD   25-OCT-2001.
XX
PF   19-APR-2001; 2001WO-JP03345.
XX
PR   19-APR-2000; 2000JP-0117749.
PR   02-MAR-2001; 2001JP-0057848.
XX
PA   (YAMA-) YAMASA CORP.
XX
PI   Inagaki K,  Arima J,  Ashiuchi M,  Yagi T,  Kusakabe H;
XX
DR   WPI; 2002-026031/03.
DR   P-PSDB; AAG80307.
XX
PT   L-Glutamate oxidase produced by transformed E. coli  -
XX
PS   Claim 4; Page 38-39; 46pp; Japanese.
XX
CC   This invention describes a novel L-Glutamate oxidase enzyme isolated from
CC   a Streptomyces sp. The L-Glutamate oxidase has the following
CC   characteristics: (a) catalyses the following reaction: L-Glutamate + O2
CC   + H2O to alpha-ketoglutarate + H2O2 + NH3; (b) specific for L-Glutamate;
CC   (c) MW as determined by SDS-PAGE is 70,000+/-6,000, by gel filtration is
CC   140,000+/-10,000 and is a dimer of two identical MW 70,000+/-6,000
CC   subunits; (d) optimum pH 6.0-8.5; (e) heat stability: stable for 30
CC   minutes at 60plusoC, pH 7.4; (f) coenzyme is FAD. The enzyme is useful
CC   for catalysing a reaction. This sequence encodes the Streptomyces sp.
CC   L-Glutamate oxidase described in the method of the invention.
XX
SQ   Sequence 2061 BP; 367 A; 745 C; 683 G; 266 T; 0 other;


  Query Match             5.2%;  Score 46.2;  DB 24;  Length 2061;
  Best Local Similarity   45.7%;  Pred. No. 0.005;
  Matches  199;  Conservative    0;  Mismatches  233;  Indels    3;  Gaps    1;

Qy    231 tgcggaaacggcaaaatgcggtttggaacttgcccccgcgtttttcaaaaaaccggaaga 290
          | || | || |  ||    |    |    | |||| | ||| | |||      | ||
Db    414 tccgcagaccggcaaccaggacgcgccggtccccccggtgttctacaagtcgttcaagga 473

Qy    291 catcgaaacaatgttcaaagcggtacacggctgggaacacgtgcagcaggctttggacaa 350
          |  | | ||   |  ||| |  |  | | ||  |||   |  | ||| ||    |  |||
Db    474 cggcaagacctggaccaacggcgcgcccagcccggagttcaaggagccggacaagcgcaa 533

Qy    351 gggcgaagggctgctgttcatcacgccgcacatcggcagctacgatttgggcggacgcta 410
          |    || | |    || |     |||  |  |  ||  | | |  | |     |
Db    534 ccacacctggatccgcaccaaccgcgagcaggtgcggcgcgcccagtacgccacggaccc 593

Qy    411 catcagccagcagcttccgttccacctgaccgccatgtacaagccgccgaaaatcaaagc 470
          |  ||||    |        |||||||| |||| |    | |  | || ||   ||   |
Db    594 ctccagcatcaacgagggcttccacctcaccggctgcgagacccggctgaccgtctcgga 653

Qy    471 gatagacaaaatcatgcaggcgggcagggtgcgcggcaaaggcaaaaccgcgcccaccgg 530
           || | |||    |  |  |  ||    |||||||| | |    |         ||    ||
Db    654 catggtcaa---ccaggcgctggagccggtgcgcgactactactccgtgaagcaggacga 710

Qy    531 catacaaggggtcaaacaaatcatcaaggccctgcgcgcgggcgaggcaaccatcatcct 590
          |  |    |||||||  |     ||||||    ||  ||||||  |||   | ||  |||
Db    711 cggaacgcgggtcaacaagccgttcaaggaatggctggcgggctgggccgacgtcgtccg 770

Qy    591 gcccgaccacgtcccttctccgcaggaaggcggcggcgtgtgggcggatttttcggcaa 650
            |  | |||  |  |||   |  |     |    ||| ||  ||||| ||   || | |
Db    771 cgacttcgacggctattcgatggggcgcttcctgcgcgagtacgcggagttcagcgacga 830

Qy    651 acctgcatacaccat 665
            | |   |  | ||
Db    831 ggccgtcgaggcgat 845


RESULT 15
AAF91450
ID   AAF91450 standard; DNA; 924 BP.
XX
AC   AAF91450;
XX
DT   04-MAY-2001  (first entry)
XX
DE   Moraxella catarrhalis HtrB gene coding region, SEQ ID:76.
XX
KW   Modified Gram-negative bacterium; outer membrane vesicle; bleb; vaccine;
KW   genetically modified; protective antigen expression; LPS detoxification;
KW   LPS; lipid A; homologous recombination vector; immunisation;
KW   immunoprotective; non-toxic; paediatric; HtrB; ds.
XX
OS   Moraxella catarrhalis.
XX
PN   WO200109350-A2.
XX
PD   08-FEB-2001.
XX
PF   31-JUL-2000; 2000WO-EP07424.
XX
PR   03-AUG-1999;   99GB-0018319.
XX
PA   (SMIK ) SMITHKLINE BEECHAM BIOLOGICALS.
XX
PI   Berthet FJ,  Dalemans WLJ,  Denoel P,  Dequesne G,  Feron C,  Lobet Y;
PI   Poolman J,  Thiry G,  Thonnard J,  Voet P;
XX
DR   WPI; 2001-138654/14.
DR   P-PSDB; AAB60651.
XX
PT   New isolated polynucleotide useful for outer membrane vesicle
PT   preparation from Gram-negative bacterial strain for vaccination of
PT   microbial infections -
XX
PS   Claim 46; Page 97; 128pp; English.
XX
CC   The invention relates to a genetically-engineered outer membrane vesicle
CC   (bleb) preparation from a Gram-negative bacterium for use as a vaccine.
CC   The blebs of the invention are improved with respect to their
CC   immunogenicity and toxicity by the introduction of one or more genetic
CC   changes to the chromosome of the bacterium  from which the blebs are
CC   derived. The changes made include the upregulation of protective antigen
CC   expression, the downregulation of immunodominant non-protective antigen
CC   expression, and genetic changes which result in detoxification of the
CC   Lipid A moiety of lipopolysaccharide (LPS). The invention also
CC   encompasses modified Gram-negative bacterial strains from which the bleb
CC   preparations are made, a vector suitable for performing recombination
CC   events (for the generation of the modified bacterial strains),
CC   bacterially-derived nucleic acid sequences used in such a vector, and an
```

CC immunoprotective and non-toxic Gram-negative bleb, ghost, or killed whole
CC cell vaccine suitable for paediatric use. The bleb preparation is useful
CC in the manufacture of a medicament for immunising a human host against a
CC disease caused by infection of one or more of the following: Neisseria
CC meningitidis, Neisseria gonorrhoeae, Haemophilus influenza, Moraxella
CC catarrhalis, Pseudomonas aeruginosa, Chlamydia trachomatis, and Chlamydia
CC pneumonia. The invention may also be used to provide immunisation against
CC the influenza virus. Bacterially derived nucleotide sequences of the
CC invention are used in the performance of homologous recombination events
CC up to 1000 bp upstream of a bacterial chromosomal gene in order to either
CC increase or decrease expression of that gene. Immunoprotective and
CC non-toxic Gram-negative bleb, ghost, or killed whole cell vaccines
CC are more immunogenic, less toxic and safer, and are particularly useful
CC for paediatric use. The present sequence represents the specifically
CC claimed Moraxella catarrhalis HtrB coding sequence.
XX
SQ Sequence 924 BP; 275 A; 192 C; 185 G; 272 T; 0 other;

Query Match 4.8%; Score 42.8; DB 22; Length 924;
Best Local Similarity 51.2%; Pred. No. 0.034;
Matches 129; Conservative 0; Mismatches 117; Indels 6; Gaps 1;

```
Qy    435 cctgaccgccatgtacaagccgccgaaaatcaaagcgatagacaaaatcatgcaggcggg 494
          ||  ||   |||||| |||||    ||||     ||| ||||     |  |      |||
Db    378 ccctactatcatgtataagcccatcaaaaatgcggcggtagatcgctttgttttacaggg 437

Qy    495 cagggtgcgcggcaaaggcaaaaccgcgcccaccggcatacaaggggtcaaacaaatcat 554
          | |    |    || | ||     |  ||||| |        || || ||   |||  |
Db    438 gcgtgaaagactaaatgccagccttgtacccacagatgctagtggtgttaaggcaatttt 497

Qy    555 caaggccctgcgcgcgggcgaggcaaccatcatcctgcccgaccacgtcccttctccgca 614
           ||  | ||    || || |     |  ||||| |||||||||||| || |||  |||
Db    498 taaaacactcaaagcaggtggatttagtatcatactgcccgaccatgtacctgatcc--- 554

Qy    615 ggaaggcggcggcgtgtgggcggatttttcggcaaacctgcatacaccatgacactggc 674
          |   || || | |   ||   |||||| || |      |    ||||  || |||||
Db    555 ---atcaggtggtgagattgctccttttttttggtattaaaaccctaaccagtacgctggc 611

Qy    675 ggcaaaattggc 686
          | ||||  | ||
Db    612 gtcaaagcttgc 623
```

RESULT 16
AAF28536/c
ID AAF28536 standard; DNA; 33140 BP.
XX
AC AAF28536;
XX
DT 04-APR-2001 (first entry)
XX
DE Genomic fragment #23.
XX
KW Genomic library; bacteria; human upper airway; otitis media; sinusitis;
KW bronchopulmonary; endocarditis; meningitis; ss.
XX
OS Moraxella catarrhalis.
XX
PN WO200078968-A2.
XX
PD 28-DEC-2000.
XX
PF 16-JUN-2000; 2000WO-US16649.
XX
PR 18-JUN-1999; 99US-0140121.
XX
PA (INCY-) INCYTE GENOMICS INC.
XX
PI Lagace RE, Patterson C, Berg KL;
XX
DR WPI; 2001-041427/05.
XX
PT Genomic library for identifying diagnostic and therapeutic
PT compositions, and for identifying virulence factors, regulatory
PT elements and drug targets, comprises Moraxella catarrhalis nucleic
PT acids -
XX
PS Claim 1; Page 191-199; 545pp; English.
XX
CC The present invention relates to a Moraxella catarrhalis genomic library
CC comprising of a combination of 41 nucleic acid molecules (see
CC AAF28514-AAF28554). The library has a number of uses described in the
CC specification e.g. is useful for aidentifying diagnostic and therapeutic
CC compositions. M. catarrhalis (Branhamella catarrhalis) is a large
CC aerobic, gram-negative diplococcus, normally found among the bacterial
CC flora of human upper airways. M. catarrhalis is known to cause acute,
CC localised infections such as otitis media, sinusitis and bronchopulmonary
CC infection and life-threatening, systemic diseases including endocarditis
CC and meningitis.
XX
SQ Sequence 33140 BP; 9472 A; 6496 C; 7384 G; 9787 T; 1 other;

Query Match 4.8%; Score 42.8; DB 22; Length 33140;
Best Local Similarity 51.2%; Pred. No. 0.14;
Matches 129; Conservative 0; Mismatches 117; Indels 6; Gaps 1;

```
Qy    435 cctgaccgccatgtacaagccgccgaaaatcaaagcgatagacaaaatcatgcaggcggg 494
          ||  ||   |||||| |||||    ||||     ||| ||||     |  |      |||
Db   3070 CCCTACTATCATGTATAAGCCCATCAAAAATGCGGCGGTAGATCGCTTTGTTTTACAGGG 3011

Qy    495 cagggtgcgcggcaaaggcaaaaccgcgcccaccggcatacaaggggtcaaacaaatcat 554
          | |    |    || | ||     |  ||||| |        || || ||   |||  |
Db   3010 GCGTGAAAGACTAAATGCCAGCCTTGTACCCACAGATGCTAGTGGTGTTAAGGCAATTTT 2951

Qy    555 caaggccctgcgcgcgggcgaggcaaccatcatcctgcccgaccacgtcccttctccgca 614
           ||  | ||    || || |     |  ||||| |||||||||||| || |||  |||
Db   2950 TAAAACACTCAAAGCAGGTGGATTTAGTATCATACTGCCCGACCATGTACCTGATCC--- 2892

Qy    615 ggaaggcggcggcgtgtgggcggatttttcggcaaacctgcatacaccatgacactggc 674
          |   || || | |   ||   |||||| || |      |    ||||  || |||||
Db   2893 ---ATCAGGTGGTGAGATTGCTCCTTTTTTTGGTATTAAAACCCTAACCAGTACGCTGGC 2837

Qy    675 ggcaaaattggc 686
          | ||||  | ||
Db   2836 GTCAAAGCTTGC 2825
```

RESULT 17
ABA13443
ID ABA13443 standard; cDNA; 676 BP.
XX
AC ABA13443;
XX
DT 23-JAN-2002 (first entry)
XX
DE Human nervous system related polynucleotide SEQ ID NO 2450.
XX
KW Human; nootropic; neuroprotective; cytostatic; dermatological; virucide;
KW immunosuppressive; antiinflammatory; anti-HIV; antibacterial; vulnerary;
KW antiparkinsonian; antisickling; antianaemic; antiarthritic; cancer;
KW antirheumatic; hepatotropic; cerebroprotective; antiinflammatory;
KW antiallergic; antidiabetic; antiulcer; anticonvulsant; antifungal;
KW antiparasitic; cardiant; immune disorder; cardiovascular disorder;
KW neurological disease; infection; nephrotropic; gene therapy; vaccine; ss.
XX
OS Homo sapiens.
XX
PN WO200159063-A2.
XX
PD 16-AUG-2001.
XX
PF 17-JAN-2001; 2001WO-US01334.
XX
PR 31-JAN-2000; 2000US-0179065.

PR 04-FEB-2000; 2000US-0180628.
PR 24-FEB-2000; 2000US-0184664.
PR 02-MAR-2000; 2000US-0186350.
PR 16-MAR-2000; 2000US-0189874.
PR 17-MAR-2000; 2000US-0190076.
PR 18-APR-2000; 2000US-0198123.
PR 19-MAY-2000; 2000US-0205515.
PR 07-JUN-2000; 2000US-0209467.
PR 28-JUN-2000; 2000US-0214886.
PR 30-JUN-2000; 2000US-0215135.
PR 07-JUL-2000; 2000US-0216647.
PR 07-JUL-2000; 2000US-0216880.
PR 11-JUL-2000; 2000US-0217487.
PR 11-JUL-2000; 2000US-0217496.
PR 14-JUL-2000; 2000US-0218290.
PR 26-JUL-2000; 2000US-0220963.
PR 26-JUL-2000; 2000US-0220964.
PR 14-AUG-2000; 2000US-0224518.
PR 14-AUG-2000; 2000US-0224519.
PR 14-AUG-2000; 2000US-0225213.
PR 14-AUG-2000; 2000US-0225214.
PR 14-AUG-2000; 2000US-0225266.
PR 14-AUG-2000; 2000US-0225267.
PR 14-AUG-2000; 2000US-0225268.
PR 14-AUG-2000; 2000US-0225270.
PR 14-AUG-2000; 2000US-0225447.
PR 14-AUG-2000; 2000US-0225757.
PR 14-AUG-2000; 2000US-0225758.
PR 14-AUG-2000; 2000US-0225759.
PR 18-AUG-2000; 2000US-0226279.
PR 22-AUG-2000; 2000US-0226681.
PR 22-AUG-2000; 2000US-0226868.
PR 22-AUG-2000; 2000US-0227182.
PR 23-AUG-2000; 2000US-0227009.
PR 30-AUG-2000; 2000US-0228924.
PR 01-SEP-2000; 2000US-0229287.
PR 01-SEP-2000; 2000US-0229343.
PR 01-SEP-2000; 2000US-0229344.
PR 01-SEP-2000; 2000US-0229345.
PR 05-SEP-2000; 2000US-0229509.
PR 05-SEP-2000; 2000US-0229513.
PR 06-SEP-2000; 2000US-0230437.
PR 06-SEP-2000; 2000US-0230438.
PR 08-SEP-2000; 2000US-0231242.
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PR 08-SEP-2000; 2000US-0231244.
PR 08-SEP-2000; 2000US-0231413.
PR 08-SEP-2000; 2000US-0231414.
PR 08-SEP-2000; 2000US-0232080.
PR 08-SEP-2000; 2000US-0232081.
PR 12-SEP-2000; 2000US-0231968.
PR 14-SEP-2000; 2000US-0232397.
PR 14-SEP-2000; 2000US-0232398.
PR 14-SEP-2000; 2000US-0232399.
PR 14-SEP-2000; 2000US-0232400.
PR 14-SEP-2000; 2000US-0232401.
PR 14-SEP-2000; 2000US-0233063.
PR 14-SEP-2000; 2000US-0233064.
PR 14-SEP-2000; 2000US-0233065.
PR 21-SEP-2000; 2000US-0234223.
PR 21-SEP-2000; 2000US-0234274.
PR 25-SEP-2000; 2000US-0234997.
PR 25-SEP-2000; 2000US-0234998.
PR 26-SEP-2000; 2000US-0235484.
PR 27-SEP-2000; 2000US-0235834.
PR 27-SEP-2000; 2000US-0235836.
PR 29-SEP-2000; 2000US-0236327.
PR 29-SEP-2000; 2000US-0236367.
PR 29-SEP-2000; 2000US-0236368.
PR 29-SEP-2000; 2000US-0236369.
PR 29-SEP-2000; 2000US-0236370.
PR 02-OCT-2000; 2000US-0236802.
PR 02-OCT-2000; 2000US-0237037.
PR 02-OCT-2000; 2000US-0237038.
PR 02-OCT-2000; 2000US-0237039.
PR 02-OCT-2000; 2000US-0237040.
PR 13-OCT-2000; 2000US-0239935.
PR 13-OCT-2000; 2000US-0239937.
PR 20-OCT-2000; 2000US-0240960.
PR 20-OCT-2000; 2000US-0241785.
PR 20-OCT-2000; 2000US-0241786.
PR 20-OCT-2000; 2000US-0241787.
PR 20-OCT-2000; 2000US-0241808.
PR 20-OCT-2000; 2000US-0241809.
PR 20-OCT-2000; 2000US-0241826.
PR 20-OCT-2000; 2000US-0242221.
PR 01-NOV-2000; 2000US-0244617.
PR 08-NOV-2000; 2000US-0246474.
PR 08-NOV-2000; 2000US-0246475.
PR 08-NOV-2000; 2000US-0246476.
PR 08-NOV-2000; 2000US-0246477.
PR 08-NOV-2000; 2000US-0246478.
PR 08-NOV-2000; 2000US-0246523.
PR 08-NOV-2000; 2000US-0246524.
PR 08-NOV-2000; 2000US-0246525.
PR 08-NOV-2000; 2000US-0246526.
PR 08-NOV-2000; 2000US-0246527.
PR 08-NOV-2000; 2000US-0246528.
PR 08-NOV-2000; 2000US-0246532.
PR 08-NOV-2000; 2000US-0246609.
PR 08-NOV-2000; 2000US-0246610.
PR 08-NOV-2000; 2000US-0246611.
PR 08-NOV-2000; 2000US-0246613.
PR 17-NOV-2000; 2000US-0249207.
PR 17-NOV-2000; 2000US-0249208.
PR 17-NOV-2000; 2000US-0249209.
PR 17-NOV-2000; 2000US-0249210.
PR 17-NOV-2000; 2000US-0249211.
PR 17-NOV-2000; 2000US-0249212.
PR 17-NOV-2000; 2000US-0249213.
PR 17-NOV-2000; 2000US-0249214.
PR 17-NOV-2000; 2000US-0249215.
PR 17-NOV-2000; 2000US-0249216.
PR 17-NOV-2000; 2000US-0249217.
PR 17-NOV-2000; 2000US-0249218.
PR 17-NOV-2000; 2000US-0249244.
PR 17-NOV-2000; 2000US-0249245.
PR 17-NOV-2000; 2000US-0249264.
PR 17-NOV-2000; 2000US-0249265.
PR 17-NOV-2000; 2000US-0249297.
PR 17-NOV-2000; 2000US-0249299.
PR 17-NOV-2000; 2000US-0249300.
PR 01-DEC-2000; 2000US-0250391.
PR 01-DEC-2000; 2000US-0251160.
PR 05-DEC-2000; 2000US-0251030.
PR 05-DEC-2000; 2000US-0251988.
PR 05-DEC-2000; 2000US-0256719.
PR 06-DEC-2000; 2000US-0251479.
PR 08-DEC-2000; 2000US-0251856.
PR 08-DEC-2000; 2000US-0251868.
PR 08-DEC-2000; 2000US-0251869.
PR 08-DEC-2000; 2000US-0251989.
PR 08-DEC-2000; 2000US-0251990.
PR 11-DEC-2000; 2000US-0254097.
PR 05-JAN-2001; 2001US-0259678.
XX
PA (HUMA-) HUMAN GENOME SCI INC.
XX
PI Rosen CA, Barash SC, Ruben SM;
XX
DR WPI; 2001-541565/60.
DR P-PSDB; ABB17117.
XX
PT Nucleic acids encoding 3224 human nervous system antigen polypeptides,
PT useful for preventing, diagnosing and/or treating nervous system
PT cancers and metastases -

XX
PS Claim 1; SEQ ID NO 2450; 1701pp + Sequence Listing; English.
XX
CC The invention relates to novel genes (ABA11004-ABA21534) and proteins
CC (ABB14678-ABB18001) useful for preventing, treating or ameliorating
CC medical conditions e.g. by protein or gene therapy. The genes are
CC isolated from a range of human tissues disclosed in the specification.
CC The nucleic acids, proteins, antibodies and (ant)agonists are useful
CC in the diagnosis, treatment and prevention of: (a) cancer, e.g. breast
CC and ovarian cancer and other cancers of the adrenal gland, bone, bone
CC marrow, breast, gastrointestinal tract, liver, lung, or urogenital;
CC (b) immune disorders e.g. Addison's disease, allergies, autoimmune
CC haemolytic anaemia, autoimmune thyroiditis, diabetes mellitus, Crohn's
CC disease, multiple sclerosis, rheumatoid arthritis and ulcerative
CC colitis; (c) cardiovascular disorders such as myocardial ischaemias;
CC (d) wound healing; (e) neurological diseases e.g. cerebral anoxia and
CC epilepsy; and (f) infectious diseases such as viral, bacterial, fungal
CC and parasitic infections.
CC Note: The sequence data for this patent did not form part of the
CC printed specification, but was obtained in electronic format directly
CC from WIPO at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ Sequence 676 BP; 119 A; 238 C; 221 G; 96 T; 2 other;

Query Match 4.4%; Score 39.6; DB 22; Length 676;
Best Local Similarity 60.6%; Pred. No. 0.25;
Matches 63; Conservative 1; Mismatches 40; Indels 0; Gaps 0;

Qy 490 gcgggcagggtgcgcggcaaaggcaaaaccgcgcccaccggcatacaaggggtcaaacaa 549
Db 369 gccgccagcgtgcccctcgaccccgagttcccgccygccgcggcacaggtgttcgagcaa 428

Qy 550 atcatcaaggccctgcgcgcgggcgaggcaaccatcatcctgcc 593
Db 429 cgcatctacgccgagcggcggggcgacgccgccaccatcgtggc 472

RESULT 18
AAA10594
ID AAA10594 standard; DNA; 10732 BP.
XX
AC AAA10594;
XX
DT 29-JUN-2000 (first entry)
XX
DE Gene encoding a subunit of cellulose synthase.
XX
KW Cellulose synthase; cellulose production; increase yield; ds.
XX
OS Vigna angularis.
XX
PN JP2000060568-A.
XX
PD 29-FEB-2000.
XX
PF 26-AUG-1998; 98JP-0239998.
XX
PR 26-AUG-1998; 98JP-0239998.
XX
PA (MIZU/) MIZUNO K.
PA (OJIP) OJI PAPER CO.
XX
DR WPI; 2000-342371/30.
DR P-PSDB; AAY85179.
XX
PT A gene encoding a cellulose synthetic equipment - for the improvement
PT in the amount of cellulose synthesised in a plant body
XX
PS Claim 2; Page 14-21; 32pp; Japanese.
XX
CC This sequence represents a gene encoding a subunit of the cellulose
CC synthase complex of Vigna angularis. The invention relates to subunits of
CC cellulose synthetic equipment, that can be used to increase the amount of
CC cellulose synthesised by a plant. The proteins and genes encoding them
CC can also be used to improve the properties of the cellulose being
CC produced by a plant.
XX
SQ Sequence 10732 BP; 3149 A; 1212 C; 2074 G; 2046 T; 2251 other;

Query Match 4.4%; Score 39.6; DB 21; Length 10732;
Best Local Similarity 13.2%; Pred. No. 0.75;
Matches 79; Conservative 246; Mismatches 274; Indels 1; Gaps 1;

Qy 147 tttaaaggaagaccgcgcgcgcatcgtcgccaatatgcggcaggcgggtttgaaccccga 206
Db 9474 tthrargthraasryshsgsrgngashsysgyhssrvaghshssrasnvaaasrhsghsr 9533

Qy 207 cacgcagacggtcaaagccgtttttgcggaaacggcaaaatgcggtttggaacttgcccc 266
Db 9534 haasrsrasaagysrasasysthrsrcysaagsrtraasraasrgashshargsrgysys 9593

Qy 267 cgcgtttttcaaaaaaccggaagacatcgaaacaatgttcaaagcggtacacggctggga 326
Db 9594 ysgrsrcysyssrvagyaasrasasnmtasashvagmtgysaavavasrvagysaathrg 9653

Qy 327 acacgtgcagcaggctttggacaagggcgaagggctgctgttcatcacgccgcacatcgg 386
Db 9654 nsrrsraasrysaavathrgasnsrsrgthrgythrysgsrthrrgggyysgrvarashs 9713

Qy 387 cagctacgatttgggcggacgctacatcagccagcagcttccgttc-cacctgaccgcca 445
Db 9714 srgnthrthrgthrthrrgvavaasmtgrmtsrashssrassryssrysasnthrcyssr 9773

Qy 446 tgtacaagccgccgaaaatcaaagcgatagacaaaatcatgcaggcgggcagggtgcgcg 505
Db 9774 ashysgythrvargytrgnasvavaysthrggnasnhsvathrhsysgyrasashsasys 9833

Qy 506 gcaaaggcaaaaccgcgcccaccggcatacaaggggtcaaacaaatcatcaaggccctgc 565
Db 9834 vaaaarghsvaasnashashashassrsrarggysrvahsasthrgnasnrrgncyshsc 9893

Qy 566 gcgcgggcgaggcaaccatcatcctgcccgaccacgtcccttctccgcaggaaggcggcg 625
Db 9894 yssrcyssrassrsrvavaasnrsraagygasnaaassrysarggrsrgngassryssrg 9953

Qy 626 gcgtgtgggcggatttttcggcaaacctgcatacaccatgacactggcggcaaaattgg 685
Db 9954 yysgvagargraavaastyrassrsrasrgnysgygyargashsrtyrysasngymtrth 10013

Qy 686 cacacgtcaaaggcgtgaaaaccctgtttttctgctgcgaacgcctgcccgacggacaag 745
Db 10014 rgytyrmtvaargvahgntrysthrsrgsrysvagghhsvacystyrassrgyysthras 10073

RESULT 19
AAI99683
ID AAI99683 standard; DNA; 4403765 BP.
XX
AC AAI99683;
XX
DT 15-JAN-2002 (first entry)
XX
DE Mycobacterium tuberculosis strain H37Rv genome SEQ ID NO 2.
XX
KW Mycobacterium tuberculosis; strain H37Rv; strain CDC 1551; genome;
KW variation; epidemiology; patient treatment; epidemic monitoring; ds.
XX
OS Mycobacterium tuberculosis.
XX
PN US6294328-B1.
XX
PD 25-SEP-2001.
XX
PF 24-JUN-1998; 98US-0103840.

XX
PR 24-JUN-1998; 98US-0103840.
XX
PA (GENO-) INST GENOMIC RES.
XX
PI Fleischmann RD, White OR, Fraser CM, Venter JC;
XX
DR WPI; 2001-647261/74.
XX
PT Evaluating strain variation of Mycobacterium tuberculosis, comprises
PT determining the nucleotide sequence of the strain at positions in the
PT genome corresponding to positions where M. tuberculosis strains CDC
PT 1551 and H37Rv differ -
XX
PS Claim 4; SEQ ID NO 2; 3pp + Sequence Listing; English.
XX
CC The invention relates to evaluating strain variation within and between
CC different populations of the tuberculosis bacterial pathogen,
CC Mycobacterium tuberculosis or related Mycobacterium by determining the
CC nucleotide sequence of the first strain at positions in the complete
CC sequence of the genome that correspond to positions that differ in the
CC nucleotide sequences of M. tuberculosis strains CDC 1551 (AAI99683) and
CC H37Rv (AAI99682). The method is useful for evaluating strain variation of
CC M. tuberculosis and has valuable application in the fields of
CC tuberculosis genetics, epidemiology, patient treatment and epidemic
CC monitoring.
CC Note: The sequence data for this patent did not form part of the printed
CC specification, but was obtained in electronic format directly from USPTO
CC at seqdata.uspto.gov/sequence.html?DocID=6294328B1.
XX
SQ Sequence 4403765 BP; 757105 A; 1447799 C; 1441301 G; 757371 T; 189 other;

Query Match 4.3%; Score 38.6; DB 22; Length 4403765;
Best Local Similarity 46.7%; Pred. No. 15;
Matches 122; Conservative 0; Mismatches 139; Indels 0; Gaps 0;

```
Qy     511 ggcaaaaccgcgcccaccggcatacaaggggtcaaacaaatcatcaaggccctgcgcgcg 570
           | |||  ||| ||| | |    |    | ||||||      |  | |||| |||   | |
Db  361666 gccaacgccgggccgaacatgctggccgcggtcaacgccccgcccaggcgctgttgggg 361725

Qy     571 ggcgaggcaaccatcatcctgcccgaccacgtcccttctccgcaggaaggcggcggcgtg 630
           ||      | |  || |    || ||   |  ||     |   | | | ||||||||
Db  361726 cgcccactgatcggcaacggtgccaacggggcgccgggcaccgggcaggccggcggcgac 361785

Qy     631 tgggcggatttttcggcaaacctgcatacaccatgacactggcggcaaaattggcacac 690
           | | |   || ||||||||    |   ||  |  | |    ||  |   |  |||   |
Db  361786 ggtgggctgttgttcggcaacggcggcaacggcgggtccggcgcacccggacaggccggc 361845

Qy     691 gtcaaaggcgtgaaaaccctgtttttctgctgcgaacgcctgcccgacggacaaggcttc 750
           |     |||| |   |||  ||| ||| ||  ||   ||     ||  |     ||   |
Db  361846 ggggccggcggggcgaccgggttcttcggcaacggtggcaacggcggggacggcgggcc 361905

Qy     751 gtgttgcacatccgccccgtc 771
           |    | ||  | || ||| |
Db  361906 ggagcgaacggcggcgccggc 361926
```

RESULT 20
AAS54297
ID AAS54297 standard; DNA; 687 BP.
XX
AC AAS54297;
XX
DT 13-FEB-2002 (first entry)
XX
DE Pseudomonas aeruginosa DNA for cellular proliferation protein #428.
XX
KW Antisense; ds; prokaryotic cellular proliferation gene;
KW antibiotic; antibacterial; drug design.
XX
OS Pseudomonas aeruginosa.
XX

PN WO200170955-A2.
XX
PD 27-SEP-2001.
XX
PF 21-MAR-2001; 2001WO-US09180.
XX
PR 21-MAR-2000; 2000US-191078P.
PR 23-MAY-2000; 2000US-206848P.
PR 26-MAY-2000; 2000US-207727P.
PR 23-OCT-2000; 2000US-242578P.
PR 27-NOV-2000; 2000US-253625P.
PR 22-DEC-2000; 2000US-257931P.
PR 16-FEB-2001; 2001US-269308P.
XX
PA (ELIT-) ELITRA PHARM INC.
XX
PI Haselbeck R, Ohlsen KL, Zyskind JW, Wall D, Trawick JD, Carr GJ;
PI Yamamoto RT, Xu HH;
XX
DR WPI; 2001-611495/70.
DR P-PSDB; AAU36438.
XX
PT New polynucleotides for the identification and development of
PT antibiotics, comprise sequences of antisense nucleic acids -
XX
PS Claim 27; Seq ID No 7934; 511pp; English.
XX
CC The invention relates to antisense inhibitors of genes essential to
CC prokaryotic cellular proliferation, their use in identifying the
CC genes, their use in the discovery of novel antibiotics, the essential
CC genes themselves and the encoded proteins. The prokaryotes used are
CC Escherichia coli, Staphylococcus aureus, Salmonella typhi, Klebsiella
CC pneumoniae, Pseudomonas aeruginosa and Enterococcus faecalis. The
CC invention is also useful for the identification of potential new targets
CC for antibiotic development. The antisense nucleic acids can also be used
CC to identify proteins used in proliferation, to express these proteins,
CC and to obtain antibodies capable of binding to the expressed proteins.
CC The proteins can be used to screen compounds in rational drug discovery
CC programmes. The antisense nucleic acid sequence is also useful to screen
CC for homologous nucleic acids which are required for cell proliferation in
CC a wide variety of organisms. The present sequence encodes an
CC essential prokaryotic cellular proliferation protein.
CC Note: The sequence data for this patent did not form part
CC of the printed specification, but was obtained in electronic
CC format directly from WIPO at
CC ftp.wipo.int/pub/published_pct_sequences.
XX
SQ Sequence 687 BP; 107 A; 243 C; 236 G; 101 T; 0 other;

Query Match 4.3%; Score 38.4; DB 23; Length 687;
Best Local Similarity 47.5%; Pred. No. 0.55;
Matches 114; Conservative 0; Mismatches 126; Indels 0; Gaps 0;

```
Qy     364 ctgttcatcacgccgcacatcggcagctacgatttgggcggacgctacatcagccagcag 423
           ||| ||  |   ||| ||| ||||  ||||   || | ||  | | |||||  |
Db     157 ctgctcgaccgcccggacagcggcgcctaccgcttcgccgagcacgacatcttcagcgtc 216

Qy     424 cttccgttccacctgaccgccatgtacaagccgccgaaaatcaaagcgatagacaaaatc 483
               |  ||  ||| | || ||   ||| |  | ||    |   |   |  | |   ||
Db     217 gacggggaccgactggcggcgatccgcaaccgcctgatcggcttcgtcttccagagcttc 276

Qy     484 atgcaggcgggcagggtgcgcggcaaaggcaaaaccgcgcccaccggcatacaaggggtc 543
           | | |  |    || ||  ||     | |||   |||||   ||   |   |  | |
Db     277 aacctgttgccgcggctgaacgcgctggacaacgtcgcgctgcccctgagctatcgaggg 336

Qy     544 aaacaaatcatcaaggccctgcgcgcgggcgaggcaaccatcatcctgcccgaccacgtc 603
           |  |    |  | |||| |||     || |||||| |   ||  || |  || ||  | |
Db     337 atgccgcgccgcgaggcactggagcgggccgaggcgatgctcgcccgggtcggcctggcc 396
```

RESULT 21
ABA19565

ID ABA19565 standard; DNA; 2834 BP.
XX
AC ABA19565;
XX
DT 23-JAN-2002 (first entry)
XX
DE Human nervous system related polynucleotide SEQ ID NO 11896.
XX
KW Human; nootropic; neuroprotective; cytostatic; dermatological; virucide;
KW immunosuppressive; antiinflammatory; anti-HIV; antibacterial; vulnerary;
KW antiparkinsonian; antisickling; antianaemic; antiarthritic; cancer;
KW antirheumatic; hepatotropic; cerebroprotective; antiinflammatory;
KW antiallergic; antidiabetic; antiulcer; anticonvulsant; antifungal;
KW antiparasitic; cardiant; immune disorder; cardiovascular disorder;
KW neurological disease; infection; nephrotropic; gene therapy; vaccine; ds.
XX
OS Homo sapiens.
XX
PN WO200159063-A2.
XX
PD 16-AUG-2001.
XX
PF 17-JAN-2001; 2001WO-US01334.
XX
PR 31-JAN-2000; 2000US-0179065.
PR 04-FEB-2000; 2000US-0180628.
PR 24-FEB-2000; 2000US-0184664.
PR 02-MAR-2000; 2000US-0186350.
PR 16-MAR-2000; 2000US-0189874.
PR 17-MAR-2000; 2000US-0190076.
PR 18-APR-2000; 2000US-0198123.
PR 19-MAY-2000; 2000US-0205515.
PR 07-JUN-2000; 2000US-0209467.
PR 28-JUN-2000; 2000US-0214886.
PR 30-JUN-2000; 2000US-0215135.
PR 07-JUL-2000; 2000US-0216647.
PR 07-JUL-2000; 2000US-0216880.
PR 11-JUL-2000; 2000US-0217487.
PR 11-JUL-2000; 2000US-0217496.
PR 14-JUL-2000; 2000US-0218290.
PR 26-JUL-2000; 2000US-0220963.
PR 26-JUL-2000; 2000US-0220964.
PR 14-AUG-2000; 2000US-0224518.
PR 14-AUG-2000; 2000US-0224519.
PR 14-AUG-2000; 2000US-0225213.
PR 14-AUG-2000; 2000US-0225214.
PR 14-AUG-2000; 2000US-0225266.
PR 14-AUG-2000; 2000US-0225267.
PR 14-AUG-2000; 2000US-0225268.
PR 14-AUG-2000; 2000US-0225270.
PR 14-AUG-2000; 2000US-0225447.
PR 14-AUG-2000; 2000US-0225757.
PR 14-AUG-2000; 2000US-0225758.
PR 14-AUG-2000; 2000US-0225759.
PR 18-AUG-2000; 2000US-0226279.
PR 22-AUG-2000; 2000US-0226681.
PR 22-AUG-2000; 2000US-0226868.
PR 22-AUG-2000; 2000US-0227182.
PR 23-AUG-2000; 2000US-0227009.
PR 30-AUG-2000; 2000US-0228924.
PR 01-SEP-2000; 2000US-0229287.
PR 01-SEP-2000; 2000US-0229343.
PR 01-SEP-2000; 2000US-0229344.
PR 01-SEP-2000; 2000US-0229345.
PR 05-SEP-2000; 2000US-0229509.
PR 05-SEP-2000; 2000US-0229513.
PR 06-SEP-2000; 2000US-0230437.
PR 06-SEP-2000; 2000US-0230438.
PR 08-SEP-2000; 2000US-0231242.
PR 08-SEP-2000; 2000US-0231243.
PR 08-SEP-2000; 2000US-0231244.
PR 08-SEP-2000; 2000US-0231413.
PR 08-SEP-2000; 2000US-0231414.
PR 08-SEP-2000; 2000US-0232080.
PR 08-SEP-2000; 2000US-0232081.
PR 12-SEP-2000; 2000US-0231968.
PR 14-SEP-2000; 2000US-0232397.
PR 14-SEP-2000; 2000US-0232398.
PR 14-SEP-2000; 2000US-0232399.
PR 14-SEP-2000; 2000US-0232400.
PR 14-SEP-2000; 2000US-0232401.
PR 14-SEP-2000; 2000US-0233063.
PR 14-SEP-2000; 2000US-0233064.
PR 14-SEP-2000; 2000US-0233065.
PR 21-SEP-2000; 2000US-0234223.
PR 21-SEP-2000; 2000US-0234274.
PR 25-SEP-2000; 2000US-0234997.
PR 25-SEP-2000; 2000US-0234998.
PR 26-SEP-2000; 2000US-0235484.
PR 27-SEP-2000; 2000US-0235834.
PR 27-SEP-2000; 2000US-0235836.
PR 29-SEP-2000; 2000US-0236327.
PR 29-SEP-2000; 2000US-0236367.
PR 29-SEP-2000; 2000US-0236368.
PR 29-SEP-2000; 2000US-0236369.
PR 29-SEP-2000; 2000US-0236370.
PR 02-OCT-2000; 2000US-0236802.
PR 02-OCT-2000; 2000US-0237037.
PR 02-OCT-2000; 2000US-0237038.
PR 02-OCT-2000; 2000US-0237039.
PR 02-OCT-2000; 2000US-0237040.
PR 13-OCT-2000; 2000US-0239935.
PR 13-OCT-2000; 2000US-0239937.
PR 20-OCT-2000; 2000US-0240960.
PR 20-OCT-2000; 2000US-0241785.
PR 20-OCT-2000; 2000US-0241786.
PR 20-OCT-2000; 2000US-0241787.
PR 20-OCT-2000; 2000US-0241808.
PR 20-OCT-2000; 2000US-0241809.
PR 20-OCT-2000; 2000US-0241826.
PR 20-OCT-2000; 2000US-0242221.
PR 01-NOV-2000; 2000US-0244617.
PR 08-NOV-2000; 2000US-0246474.
PR 08-NOV-2000; 2000US-0246475.
PR 08-NOV-2000; 2000US-0246476.
PR 08-NOV-2000; 2000US-0246477.
PR 08-NOV-2000; 2000US-0246478.
PR 08-NOV-2000; 2000US-0246523.
PR 08-NOV-2000; 2000US-0246524.
PR 08-NOV-2000; 2000US-0246525.
PR 08-NOV-2000; 2000US-0246526.
PR 08-NOV-2000; 2000US-0246527.
PR 08-NOV-2000; 2000US-0246528.
PR 08-NOV-2000; 2000US-0246532.
PR 08-NOV-2000; 2000US-0246609.
PR 08-NOV-2000; 2000US-0246610.
PR 08-NOV-2000; 2000US-0246611.
PR 08-NOV-2000; 2000US-0246613.
PR 17-NOV-2000; 2000US-0249207.
PR 17-NOV-2000; 2000US-0249208.
PR 17-NOV-2000; 2000US-0249209.
PR 17-NOV-2000; 2000US-0249210.
PR 17-NOV-2000; 2000US-0249211.
PR 17-NOV-2000; 2000US-0249212.
PR 17-NOV-2000; 2000US-0249213.
PR 17-NOV-2000; 2000US-0249214.
PR 17-NOV-2000; 2000US-0249215.
PR 17-NOV-2000; 2000US-0249216.
PR 17-NOV-2000; 2000US-0249217.
PR 17-NOV-2000; 2000US-0249218.
PR 17-NOV-2000; 2000US-0249244.
PR 17-NOV-2000; 2000US-0249245.
PR 17-NOV-2000; 2000US-0249264.
PR 17-NOV-2000; 2000US-0249265.
PR 17-NOV-2000; 2000US-0249297.
PR 17-NOV-2000; 2000US-0249299.

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PR   17-NOV-2000; 2000US-0249300.
PR   01-DEC-2000; 2000US-0250391.
PR   01-DEC-2000; 2000US-0251160.
PR   05-DEC-2000; 2000US-0251030.
PR   05-DEC-2000; 2000US-0251988.
PR   05-DEC-2000; 2000US-0256719.
PR   06-DEC-2000; 2000US-0251479.
PR   08-DEC-2000; 2000US-0251856.
PR   08-DEC-2000; 2000US-0251868.
PR   08-DEC-2000; 2000US-0251869.
PR   08-DEC-2000; 2000US-0251989.
PR   08-DEC-2000; 2000US-0251990.
PR   11-DEC-2000; 2000US-0254097.
PR   05-JAN-2001; 2001US-0259678.
XX
PA   (HUMA-) HUMAN GENOME SCI INC.
XX
PI   Rosen CA,  Barash SC,  Ruben SM;
XX
DR   WPI; 2001-541565/60.
XX
PT   Nucleic acids encoding 3224 human nervous system antigen polypeptides,
PT   useful for preventing, diagnosing and/or treating nervous system
PT   cancers and metastases -
XX
PS   Disclosure; SEQ ID NO 11896; 1701pp + Sequence Listing; English.
XX
CC   The invention relates to novel genes (ABA11004-ABA21534) and proteins
CC   (ABB14678-ABB18001) useful for preventing, treating or ameliorating
CC   medical conditions e.g. by protein or gene therapy. The genes are
CC   isolated from a range of human tissues disclosed in the specification.
CC   The nucleic acids, proteins, antibodies and (ant)agonists are useful
CC   in the diagnosis, treatment and prevention of: (a) cancer, e.g. breast
CC   and ovarian cancer and other cancers of the adrenal gland, bone, bone
CC   marrow, breast, gastrointestinal tract, liver, lung, or urogenital;
CC   (b) immune disorders e.g. Addison's disease, allergies, autoimmune
CC   haemolytic anaemia, autoimmune thyroiditis, diabetes mellitus, Crohn's
CC   disease, multiple sclerosis, rheumatoid arthritis and ulcerative
CC   colitis; (c) cardiovascular disorders such as myocardial ischaemias;
CC   (d) wound healing; (e) neurological diseases e.g. cerebral anoxia and
CC   epilepsy; and (f) infectious diseases such as viral, bacterial, fungal
CC   and parasitic infections.
CC   Note: The sequence data for this patent did not form part of the
CC   printed specification, but was obtained in electronic format directly
CC   from WIPO at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence 2834 BP; 541 A; 844 C; 899 G; 550 T; 0 other;


  Query Match             4.3%;  Score 38.4;  DB 22;  Length 2834;
  Best Local Similarity   60.6%;  Pred. No. 0.97;
  Matches   63;  Conservative    0;  Mismatches   41;  Indels    0;  Gaps    0;

Qy    490 gcgggcagggtgcgcggcaaaggcaaaaccgcgcccaccggcatacaaggggtcaaacaa 549
          || | ||| |||| |  | |   | |   | |||| |||    ||| | | || | |||
Db   2111 gccgccagcgtgcccctcgaccccgagttcccgcctgccgcggcacaggtgttcgagcaa 2170

Qy    550 atcatcaaggccctgcgcgcgggcgaggcaaccatcatcctgcc 593
            |||| | |||  |||   |||||| ||  ||| |||| || |
Db   2171 cgcatctacgccgagcggcggggcgacgccgccaccatcgtggc 2214


RESULT  22
AAI67895
ID   AAI67895 standard; DNA; 4358 BP.
XX
AC   AAI67895;
XX
DT   13-MAR-2002  (first entry)
XX
DE   Nucleotide sequence of optimised GagPol SIVmac239.
XX
KW   Gag; gagpol; pol; codon optimisation; virucide; immunostimulant;
KW   vaccine; gene therapy; SIV; ss.
XX
OS   Synthetic.
OS   Simian immunodeficiency virus.
XX
PN   EP1156112-A1.
XX
PD   21-NOV-2001.
XX
PF   18-MAY-2000; 2000EP-0110623.
XX
PR   18-MAY-2000; 2000EP-0110623.
XX
PA   (GENE-) GENEART GMBH.
XX
PI   Wagner R,  Graf M,  Deml L,  Bieler K;
XX
DR   WPI; 2002-043171/06.
XX
PT   Synthetic gag and gagpol genes optimized for high level expression via
PT   codon optimization, for efficient generation of vector particle useful
PT   in gene delivery and for immunizing against diseases of retroviruses -
XX
PS   Claim 3; Page 18-20; 40pp; English.
XX
CC   The invention relates to synthetic gag and gagpol genes optimized for
CC   high level expression via codon optimization. The optimised genes can be
CC   used for treatment and prophylaxis of diseases caused by retroviruses as
CC   well as efficient generation of vector particles (as packaging construct
CC   for gene delivery). The optimized genes may also be used in the
CC   construction of GagPol based vaccines modified for improved safety. When
CC   used as packaging constructs,the optimised genes exhibit safe and
CC   efficient gene delivery and expression of Gag of GagPol genes; and
CC   allows expression of high yields of native proteins in higher eukaryotes
CC   or insect cells, and supporting the generation of transduction competent
CC   particles for vaccination and gene therapy purposes, unlike the complex
CC   regulatory mechanisms of late gag and gappol expression found in the
CC   prior art. The present sequence represents the nucleotide sequence of
CC   optimised GagPol SIVmac239.
XX
SQ   Sequence 4358 BP; 1059 A; 1304 C; 1422 G; 573 T; 0 other;


  Query Match             4.3%;  Score 38.4;  DB 24;  Length 4358;
  Best Local Similarity   50.0%;  Pred. No. 1.2;
  Matches   96;  Conservative    0;  Mismatches   96;  Indels    0;  Gaps    0;

Qy    335 agcaggctttggacaagggcgaagggctgctgttcatcacgccgcacatcggcagctacg 394
          || |||  |   | |||  |    |  |||||  |  |  |  || || ||||||| |
Db    161 aggagggctgccagaagatcctgagcgtgctggccccctggtgcccaccggcagcgaga 220

Qy    395 atttgggcggacgctacatcagccagcagcttccgttccacctgaccgccatgtacaagc 454
          |  ||    | |  |||| || |  |    |    |    | |   ||||  | | |||
Db    221 acctgaagagcctgtacaacaccgtgtgcgtgatctggtgcatccacgccgaggagaagg 280

Qy    455 cgccgaaaatcaaagcgatagacaaaatcatgcaggcgggcagggtgcgcggcaaaggca 514
          |  | | | | | | |    |  | ||| |||||  |  |  ||||   |  |  ||||
Db    281 tgaagcacaccgaggaggccaagcagatcgtgcagaggcacctggtggtggagaccggca 340

Qy    515 aaaccgcgccca 526
            |||| | |||
Db    341 ccaccgagacca 352


RESULT  23
AAV40622
ID   AAV40622 standard; cDNA; 861 BP.
XX
AC   AAV40622;
XX
DT   26-OCT-1998  (first entry)
XX
DE   DN722_2 cDNA clone.
```

```
XX
KW   Human fetal brain cDNA library; full-length clone; gene therapy; ss.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   CDS             437..826
FT                   /*tag=  a
FT                   /product= "DN722_2 protein"
XX
PN   WO9830584-A2.
XX
PD   16-JUL-1998.
XX
PF   09-JAN-1998;   98WO-US00537.
XX
PR   28-MAY-1997;   97US-0864517.
PR   09-JAN-1997;   97US-0780890.
XX
PA   (GEMY ) GENETICS INST INC.
XX
PI   Jacobs K,  Lavallie ER,  Mccoy JM,  Merberg D,  Racie LA;
PI   Spaulding V,  Treacy M;
XX
DR   WPI; 1998-399060/34.
DR   P-PSDB; AAW69949.
XX
PT   Polynucleotide and protein of clone DN722_ 2 - useful for, e.g.
PT   treating auto-immune diseases, nervous system disorders and
PT   osteoarthritis
XX
PS   Claim 14; Page 40; 49pp; English.
XX
CC   The present sequence represents the cDNA of clone DN722_2, which was
CC   isolated from a human fetal brain cDNA library.  This sequence is a
CC   full-length clone (Accession number ATCC 98290), which includes the
CC   entire coding sequence of a secreted protein.  The polynucleotides and
CC   polypeptides can be used to prevent, treat or ameliorating a medical
CC   condition in a mammal.  They can also be used in gene therapy.
XX
SQ   Sequence 861 BP; 206 A; 273 C; 232 G; 150 T; 0 other;


  Query Match             4.3%;  Score 38;  DB 19;  Length 861;
  Best Local Similarity   52.5%;  Pred. No. 0.79;
  Matches   83;  Conservative    0;  Mismatches   75;  Indels    0;  Gaps    0;

Qy     321 ctgggaacacgtgcagcaggctttggacaagggcgaagggctgctgttcatcacgccgca 380
           ||  | ||     | || ||   |||||   | |   ||||| || | || || || ||
Db     643 ctccgcaccgcacctgctggacgtggacgcagacagcgggctcctctacaccaagcagcg 702

Qy     381 catcggcagctacgatttgggcggacgctacatcagccagcagcttccgttccacctgac 440
           ||||| | || |     || || | | | |   ||     |||||  |  || |  ||
Db     703 catcgaccgcgagtccctgtgccgccacaatgccaagtgccagctgtccctcgaggtgtt 762

Qy     441 cgccatgtacaagccgccgaaaatcaaagcgatagaca 478
           |||||   |||||  |      || |    | |||| |
Db     763 cgccaacgacaaggagatctgcatgatcaaggtagaga 800


RESULT  24
AAX83610
ID   AAX83610 standard; cDNA; 4493 BP.
XX
AC   AAX83610;
XX
DT   25-AUG-1999  (first entry)
XX
DE   Human ontherin encoding cDNA.
XX
KW   Human; ontherin; cadherin-related gene; cadherin-like protein; ds;
KW   tissue homeostasis; neurological condition; nervous system; ischaemia;
KW   infection; inflammation; Alzheimer's disease; neurodegenerative disease;
KW   Parkinson's disease; Huntington's chorea; amylotrophic lateral sclerosis;
KW   spinocerebellar degeneration; immunological disease; multiple sclerosis.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   CDS             737..3406
FT                   /*tag=  a
XX
PN   WO9929860-A1.
XX
PD   17-JUN-1999.
XX
PF   08-MAY-1998;   98WO-US09151.
XX
PR   08-DEC-1997;   97US-0067887.
XX
PA   (ONTO-) ONTOGENY INC.
XX
PI   Israel D;
XX
DR   WPI; 1999-385606/32.
DR   P-PSDB; AAY24913.
XX
PT   New isolated cadherin-like polypeptide, ontherin
XX
PS   Claim 34; Page 78-83; 91pp; English.
XX
CC   The present sequence encodes human ontherin (OT), which is a
CC   cadherin-like protein. The OT protein can: (i) bind to Ca2+, a
CC   catenin or a cadherin; (ii) regulate differentiation of neuronal cells;
CC   (iii) regulates survival of differentiated neuronal cells; (iv)
CC   regulates proliferation of testicular germ line cells; and/or (v)
CC   regulates proliferation of renal cells. The OT protein has vasotropic,
CC   cytostatic, anti-inflammatory, nootropic and neuroprotective activity.
CC   The OT protein is involved in the formation and maintenance of ordered
CC   spatial arrangements of differentiated tissues in vertebrates, both
CC   adult and embryonic, and can be used to generate and/or maintain an
CC   array of different vertebrate tissue both in vitro and in vivo. OT
CC   therapeutics can be used for treating e.g. neurological conditions such
CC   as: (i) acute, subacute, or chronic injury to the nervous system,
CC   including traumatic injury, chemical injury, vasal injury and deficits
CC   (such as the ischaemia resulting from stroke), together with
CC   infectious/inflammatory and tumour induced injury; (ii) aging of the
CC   nervous system including Alzheimer's disease; (iii) chronic
CC   neurodegenerative diseases of the nervous system including Parkinson's
CC   disease, Huntington's chorea, amylotrophic lateral sclerosis, as well as
CC   spinocerebellar degenerations; and (iv) chronic immunological diseases
CC   of the nervous system or affecting the nervous system including multiple
CC   sclerosis, for selective ablation of sensory neurons, e.g. in the
CC   treatment of chronic pain syndromes, or in the treatment of neoplastic
CC   or hyperplastic transformations such as may occur in the central nervous
CC   system.
XX
SQ   Sequence 4493 BP; 1075 A; 1344 C; 1211 G; 863 T; 0 other;


  Query Match             4.3%;  Score 38;  DB 20;  Length 4493;
  Best Local Similarity   52.5%;  Pred. No. 1.5;
  Matches   83;  Conservative    0;  Mismatches   75;  Indels    0;  Gaps    0;

Qy     321 ctgggaacacgtgcagcaggctttggacaagggcgaagggctgctgttcatcacgccgca 380
           ||  | ||     | || ||   |||||   | |   ||||| || | || || || ||
Db     943 ctccgcaccgcacctgctggacgtggacgcagacagcgggctcctttacaccaagcagcg 1002

Qy     381 catcggcagctacgatttgggcggacgctacatcagccagcagcttccgttccacctgac 440
           ||||| | || |     || || | | | |   ||     |||||  |  || |  ||
Db    1003 catcgaccgcgagtccctgtgccgccacaatgccaagtgccagctgtccctcgaggtgtt 1062

Qy     441 cgccatgtacaagccgccgaaaatcaaagcgatagaca 478
           |||||   |||||  |      || |    | |||| |
Db    1063 cgccaacgacaaggagatctgcatgatcaaggtagaga 1100
```

RESULT 25
AAX77400
ID AAX77400 standard; cDNA; 4493 BP.
XX
AC AAX77400;
XX
DT 18-AUG-1999 (first entry)
XX
DE Cadherin-like polypeptide, ontherin encoding cDNA.
XX
KW Ontherin; cadherin-like polypeptide; cadherin; cell differentiation;
KW neuronal cell; testicular; renal; spermatogenesis; vertebrate; stroke;
KW nervous system; neurological; injury; ischemia; inflammatory; tumour;
KW Alzheimer's disease; neurodegenerative disease; Parkinson's disease;
KW Huntington's chorea; amylotrophic lateral sclerosis; multiple sclerosis;
KW spinocerebellar degeneration; pain syndrome; drug screening; ds.
XX
OS Vertebrata.
XX
PN WO9929853-A1.
XX
PD 17-JUN-1999.
XX
PF 08-DEC-1998; 98WO-US25981.
XX
PR 08-DEC-1997; 97US-0067887.
XX
PA (GEMY) GENETICS INST INC.
XX
PI Israel DI;
XX
DR WPI; 1999-385603/32.
DR P-PSDB; AAY21687.
XX
PT New isolated cadherin-like polypeptides useful for treating
PT Alzheimer's disease
XX
PS Claim 5; Page 96-101; 108pp; English.
XX
CC This cDNA encodes a cadherin-like polypeptide, ontherin, which can bind
CC to at least one of Ca2+, a catenin or a cadherin. The ontherin (OT)
CC protein regulate differentiation of neuronal cells; regulate survival of
CC differentiated neuronal cells; regulate proliferation of testicular germ
CC line cells; and/or regulate proliferation of renal cells. The polypeptide
CC preferably regulate spermatogenesis. The OT polypeptides are involved in
CC the formation and maintenance of ordered spatial arrangements of
CC differentiated tissues in vertebrates, both adult and embryonic, and can
CC be used to generate and/or maintain an array of different vertebrate
CC tissue both in vitro and in vivo. OT therapeutics can be used for
CC treating e.g. neurological conditions deriving from acute, subacute, or
CC chronic injury to the nervous system, including traumatic, chemical, and
CC vasal injury and deficits (such as the ischemia resulting from stroke),
CC together with infectious/inflammatory and tumour induced injury; aging of
CC the nervous system such as Alzheimer's disease; chronic neurodegenerative
CC diseases of the nervous system (Parkinson's disease, Huntington's chorea,
CC amylotrophic lateral sclerosis as well as spinocerebellar degenerations);
CC and chronic immunological diseases of the nervous system or affecting the
CC nervous system including multiple sclerosis, for selective ablation of
CC sensory neurons, e.g. in the treatment of chronic pain syndromes, or in
CC the treatment of neoplastic or hyperplastic transformations such as may
CC occur in the central nervous system. The products may also be used in
CC other therapeutic applications related to their activities. The products
CC can also be used for detection, diagnosis and drug screening.
XX
SQ Sequence 4493 BP; 1075 A; 1344 C; 1211 G; 863 T; 0 other;

Query Match 4.3%; Score 38; DB 20; Length 4493;
Best Local Similarity 52.5%; Pred. No. 1.5;
Matches 83; Conservative 0; Mismatches 75; Indels 0; Gaps 0;

Qy 321 ctgggaacacgtgcagcaggctttggacaagggcgaagggctgctgttcatcacgccgca 380
|| | || | || || ||||| | | ||||| || | || || || ||
Db 943 ctccgcaccgcacctgctggacgtggacgcagacagcgggctcctttacaccaagcagcg 1002

Qy 381 catcggcagctacgatttgggcggacgctacatcagccagcagcttccgttccacctgac 440
||||| | || | || || | | | | || ||||| | || | || ||
Db 1003 catcgaccgcgagtccctgtgccgccacaatgccaagtgccagctgtccctcgaggtgtt 1062

Qy 441 cgccatgtacaagccgccgaaaatcaaagcgatagaca 478
||||| ||||| | || | | |||| |
Db 1063 cgccaacgacaaggagatctgcatgatcaaggtagaga 1100

RESULT 26
AAS31116
ID AAS31116 standard; cDNA; 8277 BP.
XX
AC AAS31116;
XX
DT 04-DEC-2001 (first entry)
XX
DE Human diagnostic and therapeutic polynucleotide (DITHP) #131.
XX
KW Human; receptor; diagnostic; therapeutic; gene therapy; vaccine;
KW cell proliferative disorder; Crohn's disease; lymphoma; leukaemia;
KW acquired immune deficiency syndrome; AIDS; autoimmune disorder;
KW respiratory disorder; ss.
XX
OS Homo sapiens.
XX
PN WO200162927-A2.
XX
PD 30-AUG-2001.
XX
PF 21-FEB-2001; 2001WO-US06059.
XX
PR 24-FEB-2000; 2000US-0184693.
PR 24-FEB-2000; 2000US-0184697.
PR 24-FEB-2000; 2000US-0184698.
PR 24-FEB-2000; 2000US-0184768.
PR 24-FEB-2000; 2000US-0184769.
PR 24-FEB-2000; 2000US-0184770.
PR 24-FEB-2000; 2000US-0184771.
PR 24-FEB-2000; 2000US-0184772.
PR 24-FEB-2000; 2000US-0184773.
PR 24-FEB-2000; 2000US-0184774.
PR 24-FEB-2000; 2000US-0184776.
PR 24-FEB-2000; 2000US-0184777.
PR 24-FEB-2000; 2000US-0184797.
PR 24-FEB-2000; 2000US-0184813.
PR 24-FEB-2000; 2000US-0184837.
PR 24-FEB-2000; 2000US-0184841.
PR 24-FEB-2000; 2000US-0185213.
PR 24-FEB-2000; 2000US-0185216.
PR 12-MAY-2000; 2000US-0203785.
PR 15-MAY-2000; 2000US-0204226.
PR 16-MAY-2000; 2000US-0204525.
PR 16-MAY-2000; 2000US-0204821.
PR 16-MAY-2000; 2000US-0204908.
PR 16-MAY-2000; 2000US-0205232.
PR 17-MAY-2000; 2000US-0204815.
PR 17-MAY-2000; 2000US-0204863.
PR 17-MAY-2000; 2000US-0205221.
PR 17-MAY-2000; 2000US-0205285.
PR 17-MAY-2000; 2000US-0205286.
PR 17-MAY-2000; 2000US-0205287.
PR 17-MAY-2000; 2000US-0205323.
PR 17-MAY-2000; 2000US-0205324.
XX
PA (INCY-) INCYTE GENOMICS INC.
XX
PI Panzer SR, Spiro PA, Banville SC, Shah P, Chalup MS, Chang SC;
PI Chen A, D'Sa SA, Amshey S, Dahl CR, Dam TC, Daniels SE;
PI Dufour GE, Flores V, Fong WT, Greenawalt LB, Hillman JL, Jones AL;

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PI   Liu TF, Roseberry AM, Rosen BH, Russo FD, Stockdreher TK, Daffo A;
PI   Wright RJ, Yap PE, Yu JY, Bradley DL, Bratcher SR, Chen W;
PI   Cohen HJ, Hodgson DM, Lincoln SE, Jackson S;
XX
DR   WPI; 2001-502867/55.
DR   P-PSDB; AAU19545.
XX
PT   Polynucleotides encoding diagnostic and therapeutic proteins, e.g.
PT   enzymes, hormones and receptors, useful in diagnostics and therapeutics
PT   -
XX
PS   Claim 1; Page 356-358; 522pp; English.
XX
CC   The invention relates to polynucleotides (I) encoding diagnostic and
CC   therapeutic (DITHP) polypeptides (II), which include e.g. enzymes,
CC   and proteins involved in growth and development and receptors. (I) and
CC   (II) may be used in the prevention, diagnosis and treatment of diseases
CC   associated with inappropriate DITHP expression. For example, (I) and
CC   (II) may be used to treat disorders associated with decreased polypeptide
CC   expression by rectifying mutations or deletions in a patient's genome,
CC   that affect the activity of the DITHPs, by expressing inactive proteins
CC   or supplementing the patient's own production of them. (I) and (II)
CC   may be used to treat diseases, for example, cell proliferative disorder,
CC   Crohn's disease, acquired immune deficiency syndrome (AIDS), lymphoma,
CC   leukaemia, autoimmune disorders, and respiratory disorders. Additionally,
CC   (I) may be used to produce the DITHPs, by inserting the nucleic acids
CC   into a host cell and culturing the cell to express the protein. (I) and
CC   its complementary sequences may also be used as DNA probes in diagnostic
CC   assays to detect and quantitate the presence of similar nucleic acids in
CC   samples, and therefore which patients may be in need of restorative
CC   therapy. (II) may also be used as antigens in the production of
CC   antibodies against DITHPs and in assays to identify modulators of DITHP
CC   expression and activity. The anti-DITHP antibodies and antagonists may
CC   also be used to down regulate expression and activity. The anti-DITHP
CC   antibodies may also be used as diagnostic agents for detecting the
CC   presence of DITHPs in samples (e.g. by enzyme linked immunosorbant
CC   assay (ELISA)). AAS30986-AAS31196 represent human diagnostic and
CC   therapeutic (DITHP) polynucleotides of the invention.
XX
SQ   Sequence 8277 BP; 2316 A; 1962 C; 1890 G; 2106 T; 3 other;


  Query Match             4.3%;  Score 38;  DB 22;  Length 8277;
  Best Local Similarity   52.5%;  Pred. No. 1.9;
  Matches   83;  Conservative    0;  Mismatches   75;  Indels    0;  Gaps    0;

Qy     321 ctgggaacacgtgcagcaggctttggacaagggcgaagggctgctgttcatcacgccgca 380
           ||  | ||     | || ||   |||||   | |   ||||| || | || || || ||
Db     912 ctccgcaccgcacctgctggacgtggacgcagacagcgggctcctttacaccaagcagcg 971

Qy     381 catcggcagctacgatttgggcggacgctacatcagccagcagcttccgttccacctgac 440
           ||||| | || |     || || | | | |   ||     |||||  |  || |  ||
Db     972 catcgaccgcgagtccctgtgccgccacaatgccaagtgccagctgtccctcgaggtgtt 1031

Qy     441 cgccatgtacaagccgccgaaaatcaaagcgatagaca 478
           |||||   |||||  |      || |    | |||| |
Db    1032 cgccaacgacaaggagatctgcatgatcaaggtagaga 1069


RESULT  27
AAS54057
ID   AAS54057 standard; DNA; 1191 BP.
XX
AC   AAS54057;
XX
DT   13-FEB-2002  (first entry)
XX
DE   Pseudomonas aeruginosa DNA for cellular proliferation protein #188.
XX
KW   Antisense; ds; prokaryotic cellular proliferation gene;
KW   antibiotic; antibacterial; drug design.
XX
OS   Pseudomonas aeruginosa.
XX
PN   WO200170955-A2.
XX
PD   27-SEP-2001.
XX
PF   21-MAR-2001; 2001WO-US09180.
XX
PR   21-MAR-2000; 2000US-191078P.
PR   23-MAY-2000; 2000US-206848P.
PR   26-MAY-2000; 2000US-207727P.
PR   23-OCT-2000; 2000US-242578P.
PR   27-NOV-2000; 2000US-253625P.
PR   22-DEC-2000; 2000US-257931P.
PR   16-FEB-2001; 2001US-269308P.
XX
PA   (ELIT-) ELITRA PHARM INC.
XX
PI   Haselbeck R, Ohlsen KL, Zyskind JW, Wall D, Trawick JD, Carr GJ;
PI   Yamamoto RT, Xu HH;
XX
DR   WPI; 2001-611495/70.
DR   P-PSDB; AAU36198.
XX
PT   New polynucleotides for the identification and development of
PT   antibiotics, comprise sequences of antisense nucleic acids -
XX
PS   Claim 27; Seq ID No 7694; 511pp; English.
XX
CC   The invention relates to antisense inhibitors of genes essential to
CC   prokaryotic cellular proliferation, their use in identifying the
CC   genes, their use in the discovery of novel antibiotics, the essential
CC   genes themselves and the encoded proteins. The prokaryotes used are
CC   Escherichia coli, Staphylococcus aureus, Salmonella typhi, Klebsiella
CC   pneumoniae, Pseudomonas aeruginosa and Enterococcus faecalis. The
CC   invention is also useful for the identification of potential new targets
CC   for antibiotic development. The antisense nucleic acids can also be used
CC   to identify proteins used in proliferation, to express these proteins,
CC   and to obtain antibodies capable of binding to the expressed proteins.
CC   The proteins can be used to screen compounds in rational drug discovery
CC   programmes. The antisense nucleic acid sequence is also useful to screen
CC   for homologous nucleic acids which are required for cell proliferation in
CC   a wide variety of organisms. The present sequence encodes an
CC   essential prokaryotic cellular proliferation protein.
CC   Note: The sequence data for this patent did not form part
CC   of the printed specification, but was obtained in electronic
CC   format directly from WIPO at
CC   ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence 1191 BP; 222 A; 420 C; 365 G; 184 T; 0 other;


  Query Match             4.2%;  Score 37.4;  DB 23;  Length 1191;
  Best Local Similarity   48.4%;  Pred. No. 1.3;
  Matches  104;  Conservative    0;  Mismatches  111;  Indels    0;  Gaps    0;

Qy     389 gctacgatttgggcggacgctacatcagccagcagcttccgttccacctgaccgccatgt 448
           || |||   ||   |  |    |||||  |||  ||| ||| | | |||     || |
Db     602 gcgacggcgtgatggagctgatcatcaagcaggtgctgccggccgagctgctgcacaagg 661

Qy     449 acaagccgccgaaaatcaaagcgatagacaaaatcatgcaggcgggcagggtgcgcggca 508
           |||  | |    | |||||  |||  | |||  || ||   |  |||  |||  ||| |
Db     662 acacccagttccacatcaacccgaccggcaacttcgtgatcggcggcccggtcggcgact 721

Qy     509 aaggcaaaaccgcgcccaccggcatacaaggggtcaaacaaatcatcaaggccctgcgcg 568
             |||   ||||  | ||    |||    |   | |      |||      ||   |||
Db     722 gcggcctgaccggacgcaagatcatcgtcgactcctacggcggcatggcccgccacggcg 781

Qy     569 cgggcgaggcaaccatcatcctgcccgaccacgtc 603
           ||||  |    ||  ||     ||   | | |||
Db     782 gcggcgcgttctccggcaaggacccgtccaaggtc 816


RESULT  28
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```
AAS59552/c
ID   AAS59552 standard; DNA; 23128 BP.
XX
AC   AAS59552;
XX
DT   13-FEB-2002  (first entry)
XX
DE   Propionibacterium acnes immunogenic protein encoding DNA #47.
XX
KW   SAPHO syndrome; synovitis; acne; pustulosis; hypertosis; osteomyelitis;
KW   uveitis; endophthalmitis; bone; joint; central nervous system; ELISA;
KW   inflammatory lesion; acne vulgaris; enzyme linked immunosorbent assay;
KW   dermatological; osteopathic; neuroprotectant; ds.
XX
OS   Propionibacterium acnes.
XX
PN   WO200181581-A2.
XX
PD   01-NOV-2001.
XX
PF   20-APR-2001; 2001WO-US12865.
XX
PR   21-APR-2000; 2000US-199047P.
PR   02-JUN-2000; 2000US-208841P.
PR   07-JUL-2000; 2000US-216747P.
XX
PA   (CORI-) CORIXA CORP.
XX
PI   Skeiky YAW,  Persing DH,  Mitcham JL,  Wang SS,  Bhatia A;
PI   L'maisonneuve J,  Zhang Y,  Jen S,  Carter D;
XX
DR   WPI; 2001-616774/71.
XX
PT   Propionibacterium acnes polypeptides and nucleic acids useful for
PT   vaccinating against and diagnosing infections, especially useful for
PT   treating acne vulgaris -
XX
PS   Claim 1; SEQ ID No 47; 1069pp; English.
XX
CC   Sequences AAS59506-AAS59804 represent DNA molecules encoding
CC   Propionibacterium acnes immunogenic polypeptides. The proteins and their
CC   associated DNA sequences are used in the treatment, prevention and
CC   diagnosis of medical conditions caused by P. acnes. The disorders include
CC   SAPHO syndrome (synovitis, acne, pustulosis, hypertosis and
CC   osteomyelitis), uveitis and endophthalmitis. P. acnes is also involved
CC   in infections of bone, joints and the central nervous system, however it
CC   is particularly involved in the inflammatory lesions associated with acne
CC   vulgaris. A method for detecting the presence or absence of P. acnes in a
CC   patient comprises contacting a sample with a binding agent that binds to
CC   the proteins of the invention and determining the amount of bound protein
CC   in the sample. The polypeptides may be used as antigens in the production
CC   of antibodies specific for P. acnes proteins. These antibodies can be
CC   used to downregulate expression and activity of P. acnes polypeptides and
CC   therefore treat P. acnes infections. The antibodies may also be used as
CC   diagnostic agents for determining P. acnes presence, for example, by
CC   enzyme linked immunosorbent assay (ELISA). This sequence encodes the
CC   polypeptides shown in AAU51663-AAU51893 and AAU67535.
CC   Note: The sequence data for this patent did not form part of the printed
CC   specification, but was obtained in electronic format directly from WIPO
CC   at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ   Sequence 23128 BP; 4349 A; 6746 C; 7113 G; 4908 T; 12 other;

  Query Match             4.1%;  Score 37;  DB 23;  Length 23128;
  Best Local Similarity   52.2%;  Pred. No. 5.6;
  Matches   82;  Conservative    0;  Mismatches   75;  Indels    0;  Gaps    0;

Qy     377 cgcacatcggcagctacgatttgggcggacgctacatcagccagcagcttccgttccacc 436
           | | || || |  || |||  |||     || | ||| | ||   || |  | || ||||
Db    1018 CCCCCACCGACGTCTTCGACGTGGCGCCCCGGTCCATGACCCGCAAGATCTCCTTGCACC 959

Qy     437 tgaccgccatgtacaagccgccgaaaatcaaagcgatagacaaaatcatgcaggcgggca 496
           ||| | |  |  |   |  | | ||| | |  | ||   |  ||  || | |  |
Db     958 AGACAGTCGAGCTCGTCCGCACCACGATCGACGTCGTTGAGGCACAAATTGAGACCGAAA 899

Qy     497 gggtgcgcggcaaaggcaaaaccgcgcccaccggcat 533
           |  |||||||  |  || ||      || ||| | |||
Db     898 TGCCGCGCGGCGATCGCCAAGTGCTGCGCACTGCCAT 862


RESULT  29
AAI99682
ID   AAI99682 standard; DNA; 4411529 BP.
XX
AC   AAI99682;
XX
DT   15-JAN-2002  (first entry)
XX
DE   Mycobacterium tuberculosis strain H37Rv genome SEQ ID NO 1.
XX
KW   Mycobacterium tuberculosis; strain H37Rv; strain CDC 1551; genome;
KW   variation; epidemiology; patient treatment; epidemic monitoring; ds.
XX
OS   Mycobacterium tuberculosis.
XX
PN   US6294328-B1.
XX
PD   25-SEP-2001.
XX
PF   24-JUN-1998;   98US-0103840.
XX
PR   24-JUN-1998;   98US-0103840.
XX
PA   (GENO-) INST GENOMIC RES.
XX
PI   Fleischmann RD,  White OR,  Fraser CM,  Venter JC;
XX
DR   WPI; 2001-647261/74.
XX
PT   Evaluating strain variation of Mycobacterium tuberculosis, comprises
PT   determining the nucleotide sequence of the strain at positions in the
PT   genome corresponding to positions where M. tuberculosis strains CDC
PT   1551 and H37Rv differ  -
XX
PS   Claim 3; SEQ ID NO 1; 3pp + Sequence Listing; English.
XX
CC   The invention relates to evaluating strain variation within and between
CC   different populations of the tuberculosis bacterial pathogen,
CC   Mycobacterium tuberculosis or related Mycobacterium by determining the
CC   nucleotide sequence of the first strain at positions in the complete
CC   sequence of the genome that correspond to positions that differ in the
CC   nucleotide sequences of M. tuberculosis strains CDC 1551 (AAI99683) and
CC   H37Rv (AAI99682). The method is useful for evaluating strain variation of
CC   M. tuberculosis and has valuable application in the fields of
CC   tuberculosis genetics, epidemiology, patient treatment and epidemic
CC   monitoring.
CC   Note: The sequence data for this patent did not form part of the printed
CC   specification, but was obtained in electronic format directly from USPTO
CC   at seqdata.uspto.gov/sequence.html?DocID=6294328B1.
XX
SQ   Sequence 4411529 BP; 758565 A; 1449983 C; 1444602 G; 758379 T; 0 other;

  Query Match             4.1%;  Score 37;  DB 22;  Length 4411529;
  Best Local Similarity   46.4%;  Pred. No. 43;
  Matches  121;  Conservative    0;  Mismatches  140;  Indels    0;  Gaps    0;

Qy     511 ggcaaaaccgcgcccaccggcatacaaggggtcaaacaaatcatcaaggccctgcgcgcg 570
           | |||  ||| ||| | |    |    | |||||||      |  | |||| |||   | |
Db  361608 gccaacgccgggccgaacatgctggccgcggtcaacgcccccgcccaggcgctgttgggg 361667

Qy     571 ggcgaggcaaccatcatcctgcccgaccacgtcccttctccgcaggaaggcggcggcgtg 630
           ||       | |  || |    || ||   |  ||     |   | | | ||||||||
Db  361668 cgcccactgatcggcaacggtgccaacggggcgccgggcaccgggcaggccggcggcgac 361727
```

```
Qy     631 tgggcggatttttttcggcaaacctgcatacaccatgacactggcggcaaaattggcacac 690
           | | |   || ||||||||     |   ||  |  | |    ||  |   |  |||   |
Db  361728 ggtgggctgttgttcggcaacggcggcaacggcgggtccggcgcacccggacaggccggc 361787

Qy     691 gtcaaaggcgtgaaaaccctgttttttctgctgcgaacgcctgcccgacggacaaggcttc 750
           |     |||| |    ||  ||| ||| ||  ||   ||     ||  |     ||   |
Db  361788 ggggccggcggggcggccgggttcttcggcaacggtggcaacggcggggacggcggggcc 361847

Qy     751 gtgttgcacatccgccccgtc 771
           |    | ||  | || ||| |
Db  361848 ggagcgaacggcggcgccggc 361868


RESULT  30
AAH01679/c
ID   AAH01679 standard; DNA; 1401 BP.
XX
AC   AAH01679;
XX
DT   24-JUL-2001  (first entry)
XX
DE   Bordetella pertussis nucleotide sequence SEQ ID NO:1672.
XX
KW   Species specific; genus specific; family specific; probe; detection;
KW   identification; algal; archaeal; bacterial; fungal; parasitical;
KW   microorganism; diagnosis; translation elongation factor Tu; toxin;
KW   translation elongation factor G; RecA recombinase; resistance;
KW   catalytic subunit of proton-translocating ATPase; antimicrobial;
KW   vaccine; primer; ds.
XX
OS   Bordetella pertussis.
XX
PN   WO200123604-A2.
XX
PD   05-APR-2001.
XX
PF   28-SEP-2000; 2000WO-CA01150.
XX
PR   28-SEP-1999;   99CA-2283458.
PR   19-MAY-2000; 2000CA-2307010.
XX
PA   (INFE-) INFECTIO DIAGNOSTIC (IDI) INC.
XX
PI   Bergeron MG,  Boissinot M,  Huletsky A,  Menard C,  Ouellette M;
PI   Picard FJ,  Roy PH;
XX
DR   WPI; 2001-245006/25.
XX
PT   Nucleic acid sequences are used to generate universal probes and
PT   primers which can be used to identify and detect the presence of algal,
PT   archaeal, bacterial, fungal and parasitical species in a test sample -
XX
PS   Disclosure; Page 1269-1270; 1580pp; English.
XX
CC   The present invention describes a method for generating a repertory of
CC   nucleic acids of tuf, fus, atpD and/or recA genes from which probes
CC   and/or primers are derived. The method comprises amplifying the nucleic
CC   acids of determined algal, archaeal, bacterial, fungal and parasitical
CC   species with a combination of defined primer pairs. The method can be
CC   used for producing probes and/or primers for detecting one or more
CC   related microorganisms e.g. algae, archaea, bacteria, fungi and
CC   parasites, for universal detection and for specific and ubiquitous
CC   detection and identification of an algal, archaeal, bacterial, fungal
CC   and parasitical species, genus, family and group. A nucleic acid (I)
CC   obtained using the method of the invention can be used for the universal
CC   detection of any bacterium, fungus or parasite in a sample and for the
CC   detection of at least one antimicrobial agent resistance gene or at
CC   least one toxin gene. hexA nucleic acids are used for the specific and
CC   ubiquitous detection and for identification of Streptococcus pneumoniae.
CC   (I) can be used to design a therapeutic agent which is effective against
CC   microorganisms. Microbial species or genus or family or phylum or group
CC   which can be detected include Abiotrophia adiacens, Bordetella sp.,
CC   Corynebacterium sp., Enterobacteriaceae group, Escherichia coli,
CC   Mycobacteriaceae family, Pseudomonads group, Streptococcus sp.,
CC   Neisseria gonorrhoeae and Staphylococcus sp.. Using DNA based tests
CC   provides faster results than substrate specificity tests as results can
CC   be determined in an hour and improved accuracy is also achieved.
CC   AAH00010 to AAH002304 represent nucleotide sequences and primers/probes
CC   which are given in the exemplification of the present invention.
XX
SQ   Sequence 1401 BP; 263 A; 461 C; 447 G; 230 T; 0 other;


  Query Match             4.1%;  Score 36.8;  DB 22;  Length 1401;
  Best Local Similarity   46.6%;  Pred. No. 2.1;
  Matches  151;  Conservative    0;  Mismatches  172;  Indels    1;  Gaps    1;

Qy      41 ccgccatgcacatcctgttgaccgccctgctcaaatgcctctccctgctgtcgctttcct 100
           | ||||||  ||  | | | | ||||  || ||   |  |  ||  |   ||| |   ||
Db     700 CGGCCATGGTCAGGCCGGTCAGCGCCACGCGCAGGCGGTTGCCCGGGGGCTCGTTCATCT 641

Qy     101 gtctgcacacgctgggaaaccggctcggacatctggcgttttacctttttaaaggaagacc 160
           | | | ||||  |||  | |  |  | ||    | |  | || || |||   || |||
Db     640 GGCCGAACACCATGGCCACCTTGTCCAGAACGTTCGACTCTT-CCATTTCGTGGTAGAAG 582

Qy     161 gcgcgcgcatcgtcgccaatatgcggcaggcgggtttgaaccccgacacgcagacggtca 220
           ||    | |||  |  |   |    || || ||     |||   |  |      | |
Db     581 TCGTTGCCTTCGCGGGTACGCTCGCCCACGCCGGCGAACACCGACAAGCCGCTGTGCTGC 522

Qy     221 aagccgtttttgcggaaacggcaaaatgcggtttggaacttgcccccgcgtttttcaaaa 280
           | || | |||  ||   |    |    | |   | |||||| |||      |
Db     521 TTGGCGATGTTGTTGATCAGTTCCATCATGTTGACGGTCTTGCCCACGCCGGCGCCGCCG 462

Qy     281 aaccggaagacatcgaaacaatgttcaaagcggtacacggctgggaacacgtgcagcagg 340
           ||| ||  ||| | |   |  |   | ||  || ||||     ||  || | |   |
Db     461 AACAGGCCGACCTTGCCGCCCTTGGCGAACGGGCACACCAGGTCGATAACCTTGATGCCG 402

Qy     341 ctttggacaagggcgaagggctgc 364
           |||  |  ||  |||  | | ||
Db     401 GTTTCCAGCAGCTCGACCGACGGC 378


RESULT  31
AAC46701
ID   AAC46701 standard; DNA; 548 BP.
XX
AC   AAC46701;
XX
DT   18-OCT-2000  (first entry)
XX
DE   Zea mays DNA fragment SEQ ID NO: 51088.
XX
KW   Hybridisation assay; genetic mapping; gene expression control;
KW   protein identification; signal transduction pathway; metabolic;
KW   pathway; promoter; termination sequence; corn; ss.
XX
OS   Zea mays subsp. mays.
XX
PN   EP1033405-A2.
XX
PD   06-SEP-2000.
XX
PF   25-FEB-2000; 2000EP-0301439.
XX
PR   25-FEB-1999;   99US-0121825.
PR   05-MAR-1999;   99US-0123180.
PR   09-MAR-1999;   99US-0123548.
PR   23-MAR-1999;   99US-0125788.
PR   25-MAR-1999;   99US-0126264.
PR   29-MAR-1999;   99US-0126785.
PR   01-APR-1999;   99US-0127462.
PR   06-APR-1999;   99US-0128234.
PR   08-APR-1999;   99US-0128714.
PR   16-APR-1999;   99US-0129845.
PR   19-APR-1999;   99US-0130077.
PR   21-APR-1999;   99US-0130449.
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PR 23-APR-1999; 99US-0130510.
PR 23-APR-1999; 99US-0130891.
PR 28-APR-1999; 99US-0131449.
PR 30-APR-1999; 99US-0132048.
PR 30-APR-1999; 99US-0132407.
PR 04-MAY-1999; 99US-0132484.
PR 05-MAY-1999; 99US-0132485.
PR 06-MAY-1999; 99US-0132486.
PR 06-MAY-1999; 99US-0132487.
PR 07-MAY-1999; 99US-0132863.
PR 11-MAY-1999; 99US-0134256.
PR 14-MAY-1999; 99US-0134218.
PR 14-MAY-1999; 99US-0134219.
PR 14-MAY-1999; 99US-0134221.
PR 14-MAY-1999; 99US-0134370.
PR 18-MAY-1999; 99US-0134768.
PR 19-MAY-1999; 99US-0134941.
PR 20-MAY-1999; 99US-0135124.
PR 21-MAY-1999; 99US-0135353.
PR 24-MAY-1999; 99US-0135629.
PR 25-MAY-1999; 99US-0136021.
PR 27-MAY-1999; 99US-0136392.
PR 28-MAY-1999; 99US-0136782.
PR 01-JUN-1999; 99US-0137222.
PR 03-JUN-1999; 99US-0137528.
PR 04-JUN-1999; 99US-0137502.
PR 07-JUN-1999; 99US-0137724.
PR 08-JUN-1999; 99US-0138094.
PR 10-JUN-1999; 99US-0138540.
PR 10-JUN-1999; 99US-0138847.
PR 14-JUN-1999; 99US-0139119.
PR 16-JUN-1999; 99US-0139452.
PR 16-JUN-1999; 99US-0139453.
PR 17-JUN-1999; 99US-0139492.
PR 18-JUN-1999; 99US-0139454.
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PR 18-JUN-1999; 99US-0139462.
PR 18-JUN-1999; 99US-0139463.
PR 18-JUN-1999; 99US-0139750.
PR 18-JUN-1999; 99US-0139763.
PR 21-JUN-1999; 99US-0139817.
PR 22-JUN-1999; 99US-0139899.
PR 23-JUN-1999; 99US-0140353.
PR 23-JUN-1999; 99US-0140354.
PR 24-JUN-1999; 99US-0140695.
PR 28-JUN-1999; 99US-0140823.
PR 29-JUN-1999; 99US-0140991.
PR 30-JUN-1999; 99US-0141287.
PR 01-JUL-1999; 99US-0141842.
PR 01-JUL-1999; 99US-0142154.
PR 02-JUL-1999; 99US-0142055.
PR 06-JUL-1999; 99US-0142390.
PR 08-JUL-1999; 99US-0142803.
PR 09-JUL-1999; 99US-0142920.
PR 12-JUL-1999; 99US-0142977.
PR 13-JUL-1999; 99US-0143542.
PR 14-JUL-1999; 99US-0143624.
PR 15-JUL-1999; 99US-0144005.
PR 16-JUL-1999; 99US-0144085.
PR 16-JUL-1999; 99US-0144086.
PR 19-JUL-1999; 99US-0144325.
PR 19-JUL-1999; 99US-0144331.
PR 19-JUL-1999; 99US-0144332.
PR 19-JUL-1999; 99US-0144333.
PR 19-JUL-1999; 99US-0144334.
PR 19-JUL-1999; 99US-0144335.
PR 20-JUL-1999; 99US-0144352.
PR 20-JUL-1999; 99US-0144632.
PR 20-JUL-1999; 99US-0144884.
PR 21-JUL-1999; 99US-0144814.
PR 21-JUL-1999; 99US-0145086.
PR 21-JUL-1999; 99US-0145088.
PR 22-JUL-1999; 99US-0145085.
PR 22-JUL-1999; 99US-0145087.
PR 22-JUL-1999; 99US-0145089.
PR 22-JUL-1999; 99US-0145192.
PR 23-JUL-1999; 99US-0145145.
PR 23-JUL-1999; 99US-0145218.
PR 23-JUL-1999; 99US-0145224.
PR 26-JUL-1999; 99US-0145276.
PR 27-JUL-1999; 99US-0145913.
PR 27-JUL-1999; 99US-0145918.
PR 27-JUL-1999; 99US-0145919.
PR 28-JUL-1999; 99US-0145951.
PR 02-AUG-1999; 99US-0146386.
PR 02-AUG-1999; 99US-0146388.
PR 02-AUG-1999; 99US-0146389.
PR 03-AUG-1999; 99US-0147038.
PR 04-AUG-1999; 99US-0147204.
PR 04-AUG-1999; 99US-0147302.
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PR 05-AUG-1999; 99US-0147260.
PR 06-AUG-1999; 99US-0147303.
PR 06-AUG-1999; 99US-0147416.
PR 09-AUG-1999; 99US-0147493.
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PR 18-AUG-1999; 99US-0149426.
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PR 20-AUG-1999; 99US-0149723.
PR 20-AUG-1999; 99US-0149929.
PR 23-AUG-1999; 99US-0149902.
PR 23-AUG-1999; 99US-0149930.
PR 25-AUG-1999; 99US-0150566.
PR 26-AUG-1999; 99US-0150884.
PR 27-AUG-1999; 99US-0151065.
PR 27-AUG-1999; 99US-0151066.
PR 27-AUG-1999; 99US-0151080.
PR 30-AUG-1999; 99US-0151303.
PR 31-AUG-1999; 99US-0151438.
PR 01-SEP-1999; 99US-0151930.
PR 07-SEP-1999; 99US-0152363.
PR 10-SEP-1999; 99US-0153070.
PR 13-SEP-1999; 99US-0153758.
PR 15-SEP-1999; 99US-0154018.
PR 16-SEP-1999; 99US-0154039.
PR 20-SEP-1999; 99US-0154779.
PR 22-SEP-1999; 99US-0155139.
PR 23-SEP-1999; 99US-0155486.
PR 24-SEP-1999; 99US-0155659.
PR 28-SEP-1999; 99US-0156458.
PR 29-SEP-1999; 99US-0156596.
PR 04-OCT-1999; 99US-0157117.
PR 05-OCT-1999; 99US-0157753.
PR 06-OCT-1999; 99US-0157865.
PR 07-OCT-1999; 99US-0158029.
PR 08-OCT-1999; 99US-0158232.
PR 12-OCT-1999; 99US-0158369.
PR 13-OCT-1999; 99US-0159293.
PR 13-OCT-1999; 99US-0159294.
PR 13-OCT-1999; 99US-0159295.
PR 14-OCT-1999; 99US-0159329.
PR 14-OCT-1999; 99US-0159330.
PR 14-OCT-1999; 99US-0159331.

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PR   14-OCT-1999;   99US-0159637.
PR   14-OCT-1999;   99US-0159638.
PR   18-OCT-1999;   99US-0159584.
PR   21-OCT-1999;   99US-0160741.
PR   21-OCT-1999;   99US-0160767.
PR   21-OCT-1999;   99US-0160768.
PR   21-OCT-1999;   99US-0160770.
PR   21-OCT-1999;   99US-0160814.
PR   21-OCT-1999;   99US-0160815.
PR   22-OCT-1999;   99US-0160980.
PR   22-OCT-1999;   99US-0160981.
PR   22-OCT-1999;   99US-0160989.
PR   25-OCT-1999;   99US-0161404.
PR   25-OCT-1999;   99US-0161405.
PR   25-OCT-1999;   99US-0161406.
PR   26-OCT-1999;   99US-0161359.
PR   26-OCT-1999;   99US-0161360.
PR   26-OCT-1999;   99US-0161361.
PR   28-OCT-1999;   99US-0161920.
PR   28-OCT-1999;   99US-0161992.
PR   28-OCT-1999;   99US-0161993.
PR   29-OCT-1999;   99US-0162142.

  Query Match             4.1%;  Score 36.6;  DB 21;  Length 548;
  Best Local Similarity   50.9%;  Pred. No. 1.7;
  Matches   87;  Conservative    0;  Mismatches   84;  Indels    0;  Gaps    0;

Qy     335 agcaggctttggacaagggcgaagggctgctgttcatcacgccgcacatcggcagctacg 394
           ||  |||   || || |||||  | |  |  |     |      | |  ||||| |  ||
Db     166 agtcggccccggccacgggcggcgtgaagaagccgcaccgcttccgccccggcaccgtcg 225

Qy     395 atttgggcggacgctacatcagccagcagcttccgttccacctgaccgccatgtacaagc 454
             |  |||    |  ||    |||| ||    ||   |  || | |  || || |  ||
Db     226 cgctccgcgagatccgcaagtaccagaagagcacggagctgctcatccgcaagttcgtgc 285

Qy     455 cgccgaaaatcaaagcgatagacaaaatcatgcaggcgggcagggtgcgcg 505
           |||| | | |   |  || ||||| |||  |  || | ||||||.  |||
Db     286 tgccggacaacgccgacatggacaagatctcggcggtgtgcagggacggcg 336


RESULT  32
AAA14821
ID   AAA14821 standard; DNA; 472 BP.
XX
AC   AAA14821;
XX
DT   08-AUG-2000  (first entry)
XX
DE   DNA encoding a cellobiohydrolase polypeptide.
XX
KW   Cellobiohydrolase; promoter; mutant; expression-regulating region;
KW   secretion signal sequence; enzyme; cellulase; xylanase; pectinase;
KW   lipase; protease; ss.
XX
OS   Chrysosporium sp.
XX
FH   Key             Location/Qualifiers
FT   CDS             6..467
FT                   /*tag=  a
FT                   /product= "cellobiohydrolase"
XX
PN   WO200020555-A2.
XX
PD   13-APR-2000.
XX
PF   06-OCT-1999;   99WO-NL00618.
XX
PR   06-OCT-1998;   98WO-EP06496.
XX
PA   (AARL-) AARL INC.
XX
PI   Emalfarb MA,  Burlingame RP,  Olson PT,  Sinitsyn AP,  Parriche M;
PI   Bousson JC,  Pynnonen CM,  Punt PJ,  Van Zeijl CMJ;
XX
DR   WPI; 2000-317705/27.
DR   P-PSDB; AAY84800.
XX
PT   Mutant Chrysosporium strain comprising nucleic acid encoding proteins,
PT   particularly industrially important enzymes such as cellulases,
PT   xylanases, pectinases, lipases and proteases -
XX
PS   Disclosure; Page 50; 92pp; English.
XX
CC   The present sequence encodes a Chrysosporium cellobiohydrolase,
CC   which is used in the course of the invention. The specification
CC   describes a mutant Chrysosporium strain which comprises a nucleic
CC   acid sequence encoding a polypeptide of interest, where the nucleic
CC   acid sequence is linked to an expression-regulating region and a
CC   secretion signal sequence. The mutant strain is useful for
CC   producing heterologous proteins and polypeptides of interest,
CC   e.g. industrially useful enzymes such as cellulases, xylanases,
CC   pectinases, lipases and proteases.
XX
SQ   Sequence 472 BP; 98 A; 163 C; 135 G; 74 T; 2 other;


  Query Match             4.1%;  Score 36.4;  DB 21;  Length 472;
  Best Local Similarity   48.5%;  Pred. No. 1.8;
  Matches  131;  Conservative    0;  Mismatches  136;  Indels    3;  Gaps    1;

Qy     384 cggcagctacgatttgggcggacgctacatcagccagcagcttccgttccacctgaccgc 443
           ||||| || |||    | |||| || || ||| |  | | |  | |  | ||  ||||
Db      98 cggcatctgcgaccccgacggatgcgacttcaactcgtaccgccagggcaacaagacctt 157

Qy     444 catgtacaagccgccgaaaatcaaagcgatagacaaaatcatgcaggcgggcagggtgcg 503
           |    ||||    ||   || | |||   | || |||| |   |    |  | | |
Db     158 ctacggcaagggcatgacggtcgacacgaccaagaagatcacggtcgtcacccagttcct 217

Qy     504 cggcaaaggcaaaaccgcgcccaccggcatacaaggggtcaa---acaaatcatcaaggc 560
           |   ||         || || | |||  ||  |  || || |    || | |  |||||
Db     218 caagaactcggccggcgagctctccgagatcaagcggttctacgtccagaacggcaaggt 277

Qy     561 cctgcgcgcgggcgaggcaaccatcatcctgcccgaccacgtcccttctccgcaggaagg 620
           | | | |     |||| | ||||||        |||   |  | |     | |||||  |
Db     278 catccccaactccgagtccaccatcccgggcgtcgagggcaactccatcacccaggactg 337

Qy     621 cggcggcgtgtgggcggatttttcggcaa 650
             ||| |     |  ||     |||||| |
Db     338 gtgcgaccgccagaaggccgccttcggcga 367


RESULT  33
AAI72045
ID   AAI72045 standard; DNA; 4451 BP.
XX
AC   AAI72045;
XX
DT   13-MAR-2002  (first entry)
XX
DE   Chrysoporium CBH1 gene.
XX
KW   Glycosyl hydrolase; family 7; family 10; CBH1; Xyl1; fermentation;
KW   promoter; terminator; glyceraldehyde phosphate dehydrogenase; GPD1; ds.
XX
OS   Chrysosporium sp.
XX
FH   Key             Location/Qualifiers
FT   promoter        1..1779
FT                   /*tag=  a
FT   CDS             1780..3427
FT                   /*tag=  b
FT                   /transl_except= (pos:2591..2593,aa:Trp)
FT                   /product= "CBH1"
FT                   /note= "CDS includes one intron"
FT   sig_peptide     1780..1836
FT                   /*tag=  c
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FT   mat_peptide     1836..3424
FT                   /*tag= d
FT                   /product= "CBH1"
FT   exon            1780..2188
FT                   /*tag= e
FT                   /number= 1
FT   intron          2189..2255
FT                   /*tag= f
FT                   /number= 1
FT   exon            2256..3427
FT                   /*tag= g
FT                   /number= 2
FT   unsure          2939..2941
FT                   /*tag= h
FT   terminator      3427..4451
FT                   /*tag= i
XX
PN   WO200179507-A2.
XX
PD   25-OCT-2001.
XX
PF   17-APR-2001; 2001WO-NL00301.
XX
PR   13-APR-2000; 2000EP-0201343.
XX
PA   (EMAL/) EMALFARB M A.
XX
PI   Emalfarb MA, Punt PJ, Van Zeijl CMJ;
XX
DR   WPI; 2002-066369/09.
DR   P-PSDB; AAB47783.
XX
PT   New glycosyl hydrolase family 7, glycosyl hydrolase family 10 and
PT   glyceraldehyde phosphate dehydrogenase genes from the filamentous
PT   fungus Chrysosporium useful for the microbial production of these
PT   proteins -
XX
PS   Claim 9; Page 31-33; 43pp; English.
XX
CC   This sequence encodes a Chrysosporium glycosyl hydrolase family 7
CC   protein, CBH1. This nucleic acid is used for the industrial
CC   production of CBH1 protein by microbial fermentation. The CBH1
CC   regulatory sequences (promoter and terminator) are useful for
CC   expressing heterologous polypeptides in microbes.
XX
SQ   Sequence 4451 BP; 952 A; 1385 C; 1142 G; 971 T; 1 other;


  Query Match             4.1%;  Score 36.4;  DB 24;  Length 4451;
  Best Local Similarity   48.5%;  Pred. No. 4.3;
  Matches  131;  Conservative    0;  Mismatches  136;  Indels    3;  Gaps    1;

Qy     384 cggcagctacgatttgggcggacgctacatcagccagcagcttccgttccacctgaccgc 443
           ||||| || |||    | |||| || || ||| |  | | |  | |  | ||  ||||
Db    2659 cggcatctgcgaccccgacggatgcgacttcaactcgtaccgccagggcaacaagacctt 2718

Qy     444 catgtacaagccgccgaaaatcaaagcgatagacaaaatcatgcaggcgggcagggtgcg 503
           |    ||||     ||   || |  |||   | || |||| |   |    |  | | |
Db    2719 ctacggcaagggcatgacggtcgacacgaccaagaagatcacggtcgtcacccagttcct 2778

Qy     504 cggcaaaggcaaaaccgcgcccaccggcatacaaggggtcaa---acaaatcatcaaggc 560
           |   ||         || || | |||  ||  |  || || |    || | |  |||||
Db    2779 caagaactcggccggcgagctctccgagatcaagcggttctacgtccagaacggcaaggt 2838

Qy     561 cctgcgcgcgggcgaggcaaccatcatcctgcccgaccacgtcccttctccgcaggaagg 620
           | | | |     |||| | ||||||        |||   |  | |     | |||||  |
Db    2839 catccccaactccgagtccaccatcccgggcgtcgagggcaactccatcacccaggactg 2898

Qy     621 cggcggcgtgtgggcggatttttttcggcaa 650
             ||| |     |  ||     ||||||
Db    2899 gtgcgaccgccagaaggccgccttcggcga 2928
```

```
RESULT  34
AAD17184
ID   AAD17184 standard; DNA; 65140 BP.
XX
AC   AAD17184;
XX
DT   29-NOV-2001  (first entry)
XX
DE   Streptomyces noursei nys1 DNA of nystatin PKS gene cluster.
XX
KW   Polyketide synthase; PKS; macrolide; nystatin; PKS gene cluster;
KW   antifungal; antibiotic; nys1; ds.
XX
OS   Streptomyces noursei.
XX
FH   Key             Location/Qualifiers
FT   CDS             complement (1..1035)
FT                   /*tag= a
FT                   /product= "NysD2 partial protein"
FT                   /note= "CDS does not include stop codon"
FT   CDS             complement (1056..2576)
FT                   /*tag= b
FT                   /product= "NysD1 protein"
FT   CDS             2806..6906
FT                   /*tag= c
FT                   /product= "NysA protein"
FT   CDS             6952..16530
FT                   /*tag= d
FT                   /product= "NysB protein"
FT   CDS             16550..49840
FT                   /*tag= e
FT                   /product= "NysC protein"
FT   CDS             50260..51015
FT                   /*tag= f
FT                   /product= "NysE protein"
FT   CDS             51405..54305
FT                   /*tag= g
FT                   /product= "NysR1 protein"
FT   CDS             54329..57190
FT                   /*tag= h
FT                   /product= "NysR2 protein"
FT                   /note= "CDS does not include start codon"
FT   CDS             57180..59963
FT                   /*tag= i
FT                   /product= "NysR3 protein"
FT   CDS             60415..61047
FT                   /*tag= j
FT                   /product= "NysR4 (short) protein"
FT                   /note= "CDS does not include start codon"
FT   CDS             61736..62497
FT                   /*tag= k
FT                   /product= "NysR5 protein"
FT                   /note= "CDS does not include start codon"
FT   CDS             complement (62551..63615)
FT                   /*tag= l
FT                   /product= "ORF2 protein"
FT                   /note= "CDS does not include start codon"
FT   CDS             63765..64961
FT                   /*tag= m
FT                   /product= "ORF1 protein"
XX
PN   WO200159126-A2.
XX
PD   16-AUG-2001.
XX
PF   08-FEB-2001; 2001WO-GB00509.
XX
PR   08-FEB-2000; 2000GB-0002840.
PR   10-APR-2000; 2000GB-0008786.
PR   14-APR-2000; 2000GB-0009387.
XX
PA   (UYNO-) UNIV NORGES TEKNISK NATURVITENSKAPELIGE.
PA   (SNTF ) SINTEF STIFTELSEN IND TEK FORSK.
```

```
PA   (ALPH-) ALPHARMA AS.
PA   (SINV-) SINVENT AS.
PA   (DZIE/) DZIEGLEWSKA H.
PA   (ZOTC/) ZOTCHEV S B.
PA   (SEKU/) SEKUROVA O N.
PA   (FJAE/) FJAERVIK E.
PA   (BRAU/) BRAUTASET T.
PA   (STRO/) STROM A R.
XX
PI   Zotchev SB,  Sekurova ON,  Fjaervik E,  Brautaset T,  Strom AR;
PI   Valla S,  Ellingsen TE,  Sletta H,  Gulliksen O;
XX
DR   WPI; 2001-557614/62.
DR   P-PSDB; AAE10125, AAE10126, AAE10127, AAE10128, AAE10129, AAE10130,
DR   AAE10131, AAE10132, AAE10133, AAE10134, AAE10135, AAE10136, AAE10137.
XX
PT   New nystatin polyketide synthase polynucleotides and polypeptides,
PT   useful as antibiotics and antifungals -
XX
PS   Claim 2; Page 116-151; 266pp; English.
XX
CC   The present invention relates to the cloning and sequencing of the gene
CC   cluster encoding a modular type I polyketide synthase (PKS) enzyme
CC   involved in the biosynthesis of the macrolide antibiotic nystatin.
CC   The nystatin PKS is useful as antifungal antibiotics. The present
CC   sequence is a Streptomyces noursei nys1 DNA of nystatin PKS gene cluster.
XX
SQ   Sequence 65140 BP; 8270 A; 25171 C; 22273 G; 9426 T; 0 other;


  Query Match             4.1%;  Score 36.4;  DB 22;  Length 65140;
  Best Local Similarity   56.8%;  Pred. No. 13;
  Matches   67;  Conservative    0;  Mismatches   51;  Indels    0;  Gaps    0;

Qy     520 gcgcccaccggcatacaaggggtcaaacaaatcatcaaggccctgcgcgcgggcgaggca 579
           ||| || ||||| |    || ||||   | ||  ||| ||| ||||||   ||| |
Db    8110 gcggccgccggcgtcgccggtgtcatcaagatggtcatggcgctgcgccacggccacctg 8169

Qy     580 accatcatcctgcccgaccacgtcccttctccgcaggaaggcggcggcgtgtgggcgg 637
           |    | ||||| || | |||  || ||  |||| |  | | |   ||   |  |||
Db    8170 ccgccgaccctgcacgccgacgcgccctcctcgcacgtggactggtccgccggatcgg 8227


RESULT  35
AAD17186
ID   AAD17186 standard; DNA; 125401 BP.
XX
AC   AAD17186;
XX
DT   29-NOV-2001  (first entry)
XX
DE   Streptomyces noursei nystatin PKS gene cluster DNA.
XX
KW   Polyketide synthase; PKS; macrolide; nystatin; PKS gene cluster;
KW   antifungal; antibiotic; ds.
XX
OS   Streptomyces noursei.
XX
FH   Key             Location/Qualifiers
FT   CDS             6337..34771
FT                   /*tag=  a
FT                   /product= "NysI complete protein"
FT   CDS             34792..51099
FT                   /*tag=  b
FT                   /product= "NysJ protein"
FT   CDS             51155..57355
FT                   /*tag=  c
FT                   /product= "NysK protein"
FT   CDS             57503..58687
FT                   /*tag=  d
FT                   /product= "NysL protein"
FT   CDS             complement (58786..58980)
FT                   /*tag=  e
FT                   /product= "NysM protein"
FT                   /note= "CDS does not include start codon"
FT   CDS             complement (59045..60241)
FT                   /*tag=  f
FT                   /product= "NysN protein"
FT                   /note= "CDS does not include start codon"
FT   CDS             complement (60238..61296)
FT                   /*tag=  g
FT                   /product= "NysD2 complete protein"
FT   CDS             120628..121308
FT                   /*tag=  h
FT                   /product= "NysR4 (long) protein"
XX
PN   WO200159126-A2.
XX
PD   16-AUG-2001.
XX
PF   08-FEB-2001; 2001WO-GB00509.
XX
PR   08-FEB-2000; 2000GB-0002840.
PR   10-APR-2000; 2000GB-0008786.
PR   14-APR-2000; 2000GB-0009387.
XX
PA   (UYNO-) UNIV NORGES TEKNISK NATURVITENSKAPELIGE.
PA   (SNTF ) SINTEF STIFTELSEN IND TEK FORSK.
PA   (ALPH-) ALPHARMA AS.
PA   (SINV-) SINVENT AS.
PA   (DZIE/) DZIEGLEWSKA H.
PA   (ZOTC/) ZOTCHEV S B.
PA   (SEKU/) SEKUROVA O N.
PA   (FJAE/) FJAERVIK E.
PA   (BRAU/) BRAUTASET T.
PA   (STRO/) STROM A R.
XX
PI   Zotchev SB,  Sekurova ON,  Fjaervik E,  Brautaset T,  Strom AR;
PI   Valla S,  Ellingsen TE,  Sletta H,  Gulliksen O;
XX
DR   WPI; 2001-557614/62.
DR   P-PSDB; AAE10143, AAE10144, AAE10145, AAE10146, AAE10147, AAE10148,
DR   AAE10149, AAE10150.
XX
PT   New nystatin polyketide synthase polynucleotides and polypeptides,
PT   useful as antibiotics and antifungals -
XX
PS   Claim 1; Page 188-254; 266pp; English.
XX
CC   The present invention relates to the cloning and sequencing of the gene
CC   cluster encoding a modular type I polyketide synthase (PKS) enzyme
CC   involved in the biosynthesis of the macrolide antibiotic nystatin.
CC   The nystatin PKS is useful as antifungal antibiotics. The present
CC   sequence is a Streptomyces noursei nystatin PKS gene cluster DNA.
XX
SQ   Sequence 125401 BP; 15664 A; 49692 C; 42871 G; 17174 T; 0 other;


  Query Match             4.1%;  Score 36.4;  DB 22;  Length 125401;
  Best Local Similarity   56.8%;  Pred. No. 16;
  Matches   67;  Conservative    0;  Mismatches   51;  Indels    0;  Gaps    0;

Qy     520 gcgcccaccggcatacaaggggtcaaacaaatcatcaaggccctgcgcgcgggcgaggca 579
           ||| || ||||| |    || ||||   | ||  ||| ||| ||||||   ||| |
Db   68371 gcggccgccggcgtcgccggtgtcatcaagatggtcatggcgctgcgccacggccacctg 68430

Qy     580 accatcatcctgcccgaccacgtcccttctccgcaggaaggcggcggcgtgtgggcgg 637
           |    | ||||| || | |||  || ||  |||| |  | | |   ||   |  |||
Db   68431 ccgccgaccctgcacgccgacgcgccctcctcgcacgtggactggtccgccggatcgg 68488


RESULT  36
AAC55371
ID   AAC55371 standard; cDNA; 3117 BP.
XX
AC   AAC55371;
```

```
XX
DT   05-FEB-2001  (first entry)
XX
DE   GTP-binding protein-coupled receptor BG3 nucleotide clone GFgHG0360.
XX
KW   Human; GTP-binding protein-coupled receptor; BG3; regulation;
KW   guanosine triphosphate-binding protein-coupled receptor; cytostatic;
KW   signal transduction; G protein-coupled receptor; antiasthmatic; asthma;
KW   antiparkinsonian; antidiabetic; cardioactive; nephrotropic; cancer;
KW   signal transducer; transduction abnormality; Parkinson's disease;
KW   diabetes; acute cardiac insufficiency; renal insufficiency; ss.
XX
OS   Homo sapiens.
XX
PN   WO200058462-A1.
XX
PD   05-OCT-2000.
XX
PF   24-MAR-2000; 2000WO-JP01826.
XX
PR   25-MAR-1999;   99JP-0082641.
XX
PA   (BANY ) BANYU PHARM CO LTD.
XX
PI   Nakamura T,  Ohta M;
XX
DR   WPI; 2000-611711/58.
XX
PT   G protein-coupled proteins of human origin, useful in screening ligands
PT   and drug candidates for regulating signal transduction from receptors,
PT   and in diagnosis and treatment of diseases e.g. asthma and Parkinson's
PT   -
XX
PS   Example 1; Page 36-40; 64pp; Japanese.
XX
CC   The present invention describes a human guanosine triphosphate
CC   (GTP)-binding protein-coupled receptor (G protein-coupled receptor)
CC   designated BG3. BG3 can have antiasthmatic, antiparkinsonian,
CC   antidiabetic, cardioactive, nephrotropic and cytostatic activities, and
CC   is a signal transducer. The BG3 protein can be used in screening ligands
CC   and drug candidates for regulating signal transduction from receptors,
CC   particularly for diagnosis and treatment of diseases due to the
CC   transduction abnormality e.g. asthma, Parkinson's disease, diabetes,
CC   acute cardiac insufficiency, renal insufficiency and cancer. The present
CC   sequence represents a BG3 nucleotide clone GFgHG0360 given in an example
CC   from the present invention.
XX
SQ   Sequence 3117 BP; 609 A; 884 C; 850 G; 774 T; 0 other;


  Query Match             4.0%;  Score 35.6;  DB 21;  Length 3117;
  Best Local Similarity   49.5%;  Pred. No. 6.4;
  Matches   92;  Conservative    0;  Mismatches   94;  Indels    0;  Gaps    0;

Qy      51 catcctgttgaccgccctgctcaaatgcctctccctgctgtcgctttcctgtctgcacac 110
           || |||||    |||| ||||      ||    |||||||    ||   |  |  | |
Db     114 caacctgtccttcgccgtgctggtggcccaggtcctgctgctcattagtttccgcctcga 173

Qy     111 gctgggaaaccggctcggacatctggcgttttaccttttaaaggaagaccgcgcgcgcat 170
           || ||| |     | | | ||  ||  |      ||  || |  |   |  |  | |
Db     174 gccgggcacgacccccctgccaagtgatggccgtgctcctacactacttcttcctgagtgc 233

Qy     171 cgtcgccaatatgcggcaggcgggtttgaaccccgacacgcagacggtcaaagccgtttt 230
           | ||||    |||| |  || |||  || ||| | |||    |  | |||| | | ||
Db     234 cttcgcatggatgctggtggaggggctgcacctctacagcatggtgatcaaggtctttgg 293

Qy     231 tgcgga 236
             ||||
Db     294 gtcgga 299


RESULT  37
AAC55374
ID   AAC55374 standard; cDNA; 5340 BP.
XX
AC   AAC55374;
XX
DT   05-FEB-2001  (first entry)
XX
DE   Human GTP-binding protein-coupled receptor BG3 nucleotide sequence.
XX
KW   Human; GTP-binding protein-coupled receptor; BG3; regulation;
KW   guanosine triphosphate-binding protein-coupled receptor; cytostatic;
KW   signal transduction; G protein-coupled receptor; antiasthmatic; asthma;
KW   antiparkinsonian; antidiabetic; cardioactive; nephrotropic; cancer;
KW   signal transducer; transduction abnormality; Parkinson's disease;
KW   diabetes; acute cardiac insufficiency; renal insufficiency; ss.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   CDS             517..3141
FT                   /*tag=  a
FT                   /product= "G protein-coupled receptor BG3"
XX
PN   WO200058462-A1.
XX
PD   05-OCT-2000.
XX
PF   24-MAR-2000; 2000WO-JP01826.
XX
PR   25-MAR-1999;   99JP-0082641.
XX
PA   (BANY ) BANYU PHARM CO LTD.
XX
PI   Nakamura T,  Ohta M;
XX
DR   WPI; 2000-611711/58.
DR   P-PSDB; AAB24199.
XX
PT   G protein-coupled proteins of human origin, useful in screening ligands
PT   and drug candidates for regulating signal transduction from receptors,
PT   and in diagnosis and treatment of diseases e.g. asthma and Parkinson's
PT   -
XX
PS   Claim 1; Page 41-53; 64pp; Japanese.
XX
CC   The present invention describes a human guanosine triphosphate
CC   (GTP)-binding protein-coupled receptor (G protein-coupled receptor)
CC   designated BG3. BG3 can have antiasthmatic, antiparkinsonian,
CC   antidiabetic, cardioactive, nephrotropic and cytostatic activities, and
CC   is a signal transducer. The BG3 protein can be used in screening ligands
CC   and drug candidates for regulating signal transduction from receptors,
CC   particularly for diagnosis and treatment of diseases due to the
CC   transduction abnormality e.g. asthma, Parkinson's disease, diabetes,
CC   acute cardiac insufficiency, renal insufficiency and cancer. The present
CC   sequence encodes the human BG3 protein.
XX
SQ   Sequence 5340 BP; 1141 A; 1540 C; 1411 G; 1248 T; 0 other;


  Query Match             4.0%;  Score 35.6;  DB 21;  Length 5340;
  Best Local Similarity   49.5%;  Pred. No. 7.9;
  Matches   92;  Conservative    0;  Mismatches   94;  Indels    0;  Gaps    0;

Qy      51 catcctgttgaccgccctgctcaaatgcctctccctgctgtcgctttcctgtctgcacac 110
           || |||||    |||| ||||      ||    |||||||    ||   |  |  | |
Db    2334 caacctgtccttcgccgtgctggtggcccaggtcctgctgctcattagtttccgcctcga 2393

Qy     111 gctgggaaaccggctcggacatctggcgttttaccttttaaaggaagaccgcgcgcgcat 170
           || ||| |     | | | ||  ||  |      ||  || |  |   |  |  | |
Db    2394 gccgggcacgacccccctgccaagtgatggccgtgctcctacactacttcttcctgagtgc 2453

Qy     171 cgtcgccaatatgcggcaggcgggtttgaaccccgacacgcagacggtcaaagccgtttt 230
           | ||||    |||| |  || |||  || ||| | |||    |  | |||| | | ||
Db    2454 cttcgcatggatgctggtggaggggctgcacctctacagcatggtgatcaaggtctttgg 2513
```

```
Qy    231 tgcgga 236
          ||||
Db   2514 gtcgga 2519
```

RESULT 38
AAA55213
ID AAA55213 standard; DNA; 606 BP.
XX
AC AAA55213;
XX
DT 30-AUG-2000 (first entry)
XX
DE C. symbiosum open reading frame nucleotide sequence SEQ ID NO:53.
XX
KW Cenarchaeum symbiosum; non-thermophilic; crenarchaeote; physiology;
KW characterisation; archae; therapeutic; industrial; laboratory; ds.
XX
OS Cenarchaeum symbiosum.
XX
PN WO200018909-A2.
XX
PD 06-APR-2000.
XX
PF 29-SEP-1999; 99WO-US22752.
XX
PR 29-SEP-1998; 98US-0102294.
XX
PA (DIVE-) DIVERSA CORP.
XX
PI Swanson RV, Feldman RA, Schleper C;
XX
DR WPI; 2000-293148/25.
DR P-PSDB; AAY90938.
XX
PT New nucleic acids and proteins isolated from the non-thermophilic
PT crenarchaeote Cenarchaeum symbiosum, useful in characterizing the
PT physiology of these archae and in therapeutic, industrial or laboratory
PT techniques -
XX
PS Claim 15; Page 168; 210pp; English.
XX
CC AAA55186 to AAA55226 and AAY90913 to AAY90951 represent nucleic acids
CC and proteins isolated from the non-thermophilic crenarchaeote
CC Cenarchaeum symbiosum. The nucleic acids and proteins identified in
CC the present invention are useful in characterising the physiology of
CC these archae and can be used in therapeutic, industrial or laboratory
CC techniques. AAA55227 to AAA55260 represent promoter sequences from
CC Cenarchaeum symbiosum. AAA55261 to AAA55269 represent PCR primers and
CC probes used in examples from the present invention.
XX
SQ Sequence 606 BP; 167 A; 143 C; 187 G; 109 T; 0 other;

Query Match 4.0%; Score 35.4; DB 21; Length 606;
Best Local Similarity 47.2%; Pred. No. 3.8;
Matches 108; Conservative 0; Mismatches 121; Indels 0; Gaps 0;

```
Qy    409 tacatcagccagcagcttccgttccacctgaccgccatgtacaagccgccgaaaatcaaa 468
          | ||  ||| ||| |         || | | ||  |   |||  || | | |   |||||
Db    139 tccaaaagcaagccgtactttgagcagcaggccagccactaoctgctggcaaggttcaaa 198

Qy    469 gcgatagacaaaatcatgcaggcgggcagggtgcgcggcaaaggcaaaaccgcgcccacc 528
              |||||| ||  ||||||    ||  |||||    |||    ||        |
Db    199 aacggccccaaaatgataaaggcggtggagggccgcgggggcggcccttcctatttattc 258

Qy    529 ggcatacaaggggtcaaacaaatcatcaaggccctgcgcgcgggcgaggcaaccatcatc 588
           ||||  | | ||  | |      |   | |||   |   | || | | | ||||   |
Db    259 agcatggacgaggagatattcgaaagggaatcccccgggatgagctatgtatccatgtac 318

Qy    589 ctgcccgaccacgtcccttctccgcaggaaggcggcggcgtgtgggcgg 637
            |  ||  |||    |||   | ||||     |||  |||  | |||
Db    319 tatctggaatacggagattccgaggaggacatacgcgaggtggcgtcgg 367
```

RESULT 39
AAA55186/c
ID AAA55186 standard; DNA; 32998 BP.
XX
AC AAA55186;
XX
DT 30-AUG-2000 (first entry)
XX
DE Cenarchaeum symbiosum nucleotide sequence variant A SEQ ID NO:1.
XX
KW Cenarchaeum symbiosum; non-thermophilic; crenarchaeote; physiology;
KW characterisation; archae; therapeutic; industrial; laboratory; ds.
XX
OS Cenarchaeum symbiosum.
XX
PN WO200018909-A2.
XX
PD 06-APR-2000.
XX
PF 29-SEP-1999; 99WO-US22752.
XX
PR 29-SEP-1998; 98US-0102294.
XX
PA (DIVE-) DIVERSA CORP.
XX
PI Swanson RV, Feldman RA, Schleper C;
XX
DR WPI; 2000-293148/25.
XX
PT New nucleic acids and proteins isolated from the non-thermophilic
PT crenarchaeote Cenarchaeum symbiosum, useful in characterizing the
PT physiology of these archae and in therapeutic, industrial or laboratory
PT techniques -
XX
PS Claim 1; Page 64-74; 210pp; English.
XX
CC AAA55186 to AAA55226 and AAY90913 to AAY90951 represent nucleic acids
CC and proteins isolated from the non-thermophilic crenarchaeote
CC Cenarchaeum symbiosum. The nucleic acids and proteins identified in
CC the present invention are useful in characterising the physiology of
CC these archae and can be used in therapeutic, industrial or laboratory
CC techniques. AAA55227 to AAA55260 represent promoter sequences from
CC Cenarchaeum symbiosum. AAA55261 to AAA55269 represent PCR primers and
CC probes used in examples from the present invention.
XX
SQ Sequence 32998 BP; 7312 A; 9457 C; 8851 G; 7378 T; 0 other;

Query Match 4.0%; Score 35.4; DB 21; Length 32998;
Best Local Similarity 47.2%; Pred. No. 19;
Matches 108; Conservative 0; Mismatches 121; Indels 0; Gaps 0;

```
Qy    409 tacatcagccagcagcttccgttccacctgaccgccatgtacaagccgccgaaaatcaaa 468
          | ||  ||| ||| |         || | | ||  |   |||  || | | |   |||||
Db  11849 TCCAAAAGCAAGCCGTACTTTGAGCAGCAGGCCAGCCACTACCTGCTGGCAAGGTTCAAA 11790

Qy    469 gcgatagacaaaatcatgcaggcgggcagggtgcgcggcaaaggcaaaaccgcgcccacc 528
              |||||| ||  ||||||    ||  |||||    |||    ||        |
Db  11789 AACGGCCCCAAAATGATAAAGGCGGTGGAGGGCCGCGGGGGCGGCCCTTCCTATTTATTC 11730

Qy    529 ggcatacaaggggtcaaacaaatcatcaaggccctgcgcgcgggcgaggcaaccatcatc 588
           ||||  | | ||  | |      |   | |||   |   | || | | | ||||   |
Db  11729 AGCATGGACGAGGAGATATTCGAAAGGGAATCCCCCGGGATGAGCTATGTATCCATGTAC 11670

Qy    589 ctgcccgaccacgtcccttctccgcaggaaggcggcggcgtgtgggcgg 637
            |  ||  |||    |||   | ||||     |||  |||  | |||
Db  11669 TATCTGGAATACGGAGATTCCGAGGAGGACATACGCGAGGTGGCGTCGG 11621
```

RESULT 40

```
AAF75385
ID   AAF75385 standard; DNA; 1098 BP.
XX
AC   AAF75385;
XX
DT   14-MAY-2001  (first entry)
XX
DE   Codon-optimised mutant HPV16 E2 gene.
XX
KW   Human papillomavirus; HPV; HPV16; HPV6a; HPV18; L1; E2; E7;
KW   antiviral; immunostimulant; vaccine; immunogen; infection; ds.
XX
OS   Human papillomavirus.
OS   Synthetic.
XX
PN   WO200114416-A2.
XX
PD   01-MAR-2001.
XX
PF   21-AUG-2000; 2000WO-US22932.
XX
PR   25-AUG-1999;   99US-0150728.
PR   07-JUN-2000; 2000US-0210143.
XX
PA   (MERI ) MERCK & CO INC.
XX
PI   Neeper MP,  McClements WL,  Jansen KU,  Schultz LD,  Chen L,  Wang X;
XX
DR   WPI; 2001-218428/22.
XX
PT   Novel synthetic polynucleotide encoding human papillomavirus (HPV)
PT   protein or mutated HPV protein useful as anti-HPV vaccines, comprises
PT   optimized-codons for expression of the viral proteins in human host
PT   cells  -
XX
PS   Claim 15; Fig 3; 119pp; English.
XX
CC   The present sequence is one of a number of synthetic polynucleotides
CC   that encode a human papillomavirus (HPV) protein, or a mutated form of
CC   a HPV protein. The mutated HPV proteins have reduced protein function
CC   as compared to wild type proteins but maintain immunogenicity. The
CC   proteins comprise codons for optimised expression in humans. The
CC   polynucleotides are useful as a vaccine which provides effective
CC   immunoprophylaxis against papillomavirus infection through stimulation
CC   of neutralising antibody and cell-mediated immunity.
XX
SQ   Sequence 1098 BP; 271 A; 394 C; 299 G; 134 T; 0 other;


  Query Match             3.9%;  Score 35.2;  DB 22;  Length 1098;
  Best Local Similarity   54.7%;  Pred. No. 5.5;
  Matches   70;  Conservative    0;  Mismatches   58;  Indels    0;  Gaps    0;

Qy    317 acggctgggaacacgtgcagcaggctttggacaagggcgaagggctgctgttcatcacgc 376
          || ||  | |  | |||  | |||     | |   ||| | | | | |||| |  |||
Db    533 acagcaagaacaaggtgtgggaggtgcacgccggcggccaggtgatcctgtgccccacca 592

Qy    377 cgcacatcggcagctacgatttgggcggacgctacatcagccagcagcttccgttccacc 436
              || ||||| ||||  || || | | | | | | || ||  ||||  | |  | |||
Db    593 gcgtgttcagcagcaacgaggtgagcagccccgagaccatccgccagcacctggccaacc 652

Qy    437 tgaccgcc 444
            | ||||
Db    653 acagcgcc 660


RESULT  41
AAZ53332/c
ID   AAZ53332 standard; DNA; 1812 BP.
XX
AC   AAZ53332;
XX
DT   21-MAR-2000  (first entry)
XX
DE   Neisseria gonorrheae ORF 151 partial DNA sequence SEQ ID NO:613.
XX
KW   Neisseria meningitidis; Neisseria gonorrheae; antigen; vaccine;
KW   antigenic; diagnosis; immunogenic; infection; meningitis; septicaemia;
KW   antibacterial; gene therapy; ds.
XX
OS   Neisseria gonorrheae.
XX
PN   WO9957280-A2.
XX
PD   11-NOV-1999.
XX
PF   30-APR-1999;   99WO-US09346.
XX
PR   01-MAY-1998;   98US-0083758.
PR   31-JUL-1998;   98US-0094869.
PR   02-SEP-1998;   98US-0098994.
PR   02-SEP-1998;   98US-0099062.
PR   09-OCT-1998;   98US-0103749.
PR   09-OCT-1998;   98US-0103794.
PR   09-OCT-1998;   98US-0103796.
PR   25-FEB-1999;   99US-0121528.
XX
PA   (CHIR ) CHIRON CORP.
PA   (GENO-) INST GENOMIC RES.
XX
PI   Fraser C,  Galeotti C,  Grandi G,  Hickey E,  Masignani V,  Mora M;
PI   Petersen J,  Pizza M,  Rappuoli R,  Ratti G,  Scalato E,  Scarselli M;
PI   Tettelin H,  Venter JC;
XX
DR   WPI; 2000-062150/05.
DR   P-PSDB; AAY74570.
XX
PT   Novel Neisserial polypeptides predicted to be useful antigens for
PT   vaccines and diagnostics  -
XX
PS   Claim 7; Page 430; 1453pp; English.
XX
CC   AAZ53015 to AAZ54536, AAZ54577 to AAZ54615, and AAY74253 to AAY75941
CC   represent novel Neisseria meningitis and N. gonorrheae polynucleotides
CC   and polypeptides. AAZ54537 to AAZ54576 and AAZ54616 to AAZ55473 represent
CC   PCR primers used in the exemplification of the present invention. The
CC   polypeptides, the polynucleotides, antibodies and compositions of
CC   the invention can be used as vaccines, as diagnostic reagents, and as
CC   immunogenic compositions. The polypeptides can be used in the
CC   manufacture of medicaments for treating or preventing infection due to
CC   Neisserial bacteria (e.g. meningitis and septicaemia), to detect the
CC   presence of Neisseria bacteria, or to raise antibodies. They may also
CC   be used to screen for agonists or antagonists, which may themselves
CC   have use as antibacterial agents. The polynucleotides of the invention
CC   may also be used in gene therapy protocols.
XX
SQ   Sequence 1812 BP; 458 A; 544 C; 491 G; 319 T; 0 other;


  Query Match             3.9%;  Score 35.2;  DB 21;  Length 1812;
  Best Local Similarity   54.7%;  Pred. No. 6.7;
  Matches   70;  Conservative    0;  Mismatches   58;  Indels    0;  Gaps    0;

Qy    358 gggctgctgttcatcacgccgcacatcggcagctacgatttgggcggacgctacatcagc 417
          |||||| |||| | ||    |  ||||| ||||  || || |  |   | | ||||| ||
Db    947 GGGCTGGTGTTTACCATAAAGTCCATCGTCAGCGTCGGTTCGTCCACGCTCAACATCGGC 888

Qy    418 cagcagcttccgttccacctgaccgccatgtacaagccgccgaaaatcaaagcgatagac 477
            ||   |  |||     || | |  |||   | ||||  |   ||     |||||
Db    887 AGGCCTTTGGGGTTGTCTTTGTCGGTGATGGTTACGCCGATGCCGATGTCTTCGATACCG 828

Qy    478 aaaatcat 485
            |||| ||
Db    827 GAAATAAT 820
```

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RESULT  42
AAI99682/c
ID   AAI99682 standard; DNA; 4411529 BP.
XX
AC   AAI99682;
XX
DT   15-JAN-2002  (first entry)
XX
DE   Mycobacterium tuberculosis strain H37Rv genome SEQ ID NO 1.
XX
KW   Mycobacterium tuberculosis; strain H37Rv; strain CDC 1551; genome;
KW   variation; epidemiology; patient treatment; epidemic monitoring; ds.
XX
OS   Mycobacterium tuberculosis.
XX
PN   US6294328-B1.
XX
PD   25-SEP-2001.
XX
PF   24-JUN-1998;   98US-0103840.
XX
PR   24-JUN-1998;   98US-0103840.
XX
PA   (GENO-) INST GENOMIC RES.
XX
PI   Fleischmann RD,  White OR,  Fraser CM,  Venter JC;
XX
DR   WPI; 2001-647261/74.
XX
PT   Evaluating strain variation of Mycobacterium tuberculosis, comprises
PT   determining the nucleotide sequence of the strain at positions in the
PT   genome corresponding to positions where M. tuberculosis strains CDC
PT   1551 and H37Rv differ  -
XX
PS   Claim 3; SEQ ID NO 1; 3pp + Sequence Listing; English.
XX
CC   The invention relates to evaluating strain variation within and between
CC   different populations of the tuberculosis bacterial pathogen,
CC   Mycobacterium tuberculosis or related Mycobacterium by determining the
CC   nucleotide sequence of the first strain at positions in the complete
CC   sequence of the genome that correspond to positions that differ in the
CC   nucleotide sequences of M. tuberculosis strains CDC 1551 (AAI99683) and
CC   H37Rv (AAI99682). The method is useful for evaluating strain variation of
CC   M. tuberculosis and has valuable application in the fields of
CC   tuberculosis genetics, epidemiology, patient treatment and epidemic
CC   monitoring.
CC   Note: The sequence data for this patent did not form part of the printed
CC   specification, but was obtained in electronic format directly from USPTO
CC   at seqdata.uspto.gov/sequence.html?DocID=6294328B1.
XX
SQ   Sequence 4411529 BP; 758565 A; 1449983 C; 1444602 G; 758379 T; 0 other;


  Query Match             3.9%;  Score 35.2;  DB 22;  Length 4411529;
  Best Local Similarity   47.3%;  Pred. No. 1.2e+02;
  Matches  107;  Conservative    0;  Mismatches  119;  Indels    0;  Gaps    0;

Qy     366 gttcatcacgccgcacatcggcagctacgatttgggcggacgctacatcagccagcagct 425
           || |  |||  |   | | ||||         || | | || || |  ||||  || ||
Db 2980438 GTACGCCACCACCGCCGTGGGCACACCGACCATGCGGGCACACTCCTACAGCTTGCTGCG 2980379

Qy     426 tccgttccacctgaccgccatgtacaagccgccgaaaatcaaagcgatagacaaaatcat 485
             |  ||   | |||||| ||  | |    | ||    |          |   |||
Db 2980378 CGCAATCATGCAGACCGCCTTGGCCGACGACCTGATCGACTCCAACCCCTGCCGCATCTC 2980319

Qy     486 gcaggcgggcagggtgcgcggcaaaggcaaaaccgcgcccaccggcatacaaggggtcaa 545
            ||| ||  |  ||| ||     ||| | |  |||| ||  | |  | | | |  |
Db 2980318 AGGCGCGTCCACCGCCCGCCGCGTCCACAAGATCAGGCCCGCCACCCTCGACGAGCTGGA 2980259

Qy     546 acaaatcatcaaggccctgcgcgcgggcgaggcaaccatcatcctg 591
           |   |||| ||| ||| ||| ||    | |      |  || | |||
Db 2980258 AACCATCACCAAAGCCATGCCCGACCCCTACCAGGCGTTCGTGCTG 2980213


RESULT  43
AAT94202
ID   AAT94202 standard; DNA; 1479 BP.
XX
AC   AAT94202;
XX
DT   21-MAY-1998  (first entry)
XX
DE   AEPII1a clone 63GA3 endoglucanase DNA.
XX
KW   Endoglucanase; cellulase; carboxymethylcellulose; cellulose;
KW   biomass; beta-1,4-glycosidic bond; hydrolysis; saccharification;
KW   thermostable enzyme; thermophilic; glycosidase; ss.
XX
OS   Archaebacterium AEPII1a (clone 63GA3).
XX
PN   WO9744361-A1.
XX
PD   27-NOV-1997.
XX
PF   22-MAY-1997;   97WO-US08793.
XX
PR   22-MAY-1996;   96US-0651572.
XX
PA   (RECO-) RECOMBINANT BIOCATALYSIS INC.
XX
PI   Lam DE,  Mathur EJ;
XX
DR   WPI; 1998-018435/02.
DR   P-PSDB; AAW34994.
XX
PT   Endoglucanase(s), preferably form archael bacterium, AEPII 1a -
PT   useful to degrade carboxymethylcellulose and hydrolyse of
PT   beta-1,4-glycosidic bonds in cellulose
XX
PS   Claim 3; Fig 1J; 164pp; English.
XX
CC   This DNA sequence from archaebacterium hydrothermal vent isolate
CC   AEPII1a clone 63GA3 encodes an endoglucanase (see AAW34994) that is
CC   able to degrade carboxymethylcellulose and to hydrolyse the
CC   beta-1,4-glycosidic bonds in cellulose, and which shows homology to
CC   the thermostable endoglucanase (see AAW34985) of AEPII1a (ATCC 97516).
CC   The DNA can be used in the recombinant production of the
CC   endoglucanase and as a probe to identify similar sequences.  24
CC   Endoglucanase polynucleotides (see AAT94193-216) are claimed.  These
CC   can be incorporated into plasmid or virus-derived vectors for use
CC   in a claimed method of producing enzymes in transformed host cells.
CC   The claimed endoglucanases (see AAW34985-W35008) can be used to
CC   degrade cellulose for the conversion of plant biomass into fuels
CC   and chemicals, for use in detergents, textiles, animal feed, waste
CC   treatment, and in the fruit juice and brewing industries for the
CC   clarification and extraction of juices.
XX
SQ   Sequence 1479 BP; 370 A; 366 C; 454 G; 289 T; 0 other;


  Query Match             3.9%;  Score 35;  DB 19;  Length 1479;
  Best Local Similarity   52.4%;  Pred. No. 7.1;
  Matches   77;  Conservative    0;  Mismatches   70;  Indels    0;  Gaps    0;

Qy     317 acggctgggaacacgtgcagcaggctttggacaagggcgaagggctgctgttcatcacgc 376
           | |||   ||| |||| | |  || | || |  ||  | | || ||||   | ||   |
Db    1112 agggcctcgaaaacgtcctgatggatctgaaggagctctacggcctgccaatgatggtga 1171

Qy     377 cgcacatcggcagctacgatttgggcggacgctacatcagccagcagcttccgttccacc 436
           || | | ||| |     ||| |||  |   |  ||  |    | | ||   |  |||||
Db    1172 cggagaacgggatggcggatatggcagacaggcaccgctcttactacctcgtgagccacc 1231

Qy     437 tgaccgccatgtacaagccgccgaaaa 463
           |  | || ||  ||| | ||  | | |
Db    1232 tcgcggctatccacagggcgatggaga 1258
```

```
RESULT  44
AAZ53334/c
ID   AAZ53334 standard; DNA; 1812 BP.
XX
AC   AAZ53334;
XX
DT   21-MAR-2000  (first entry)
XX
DE   Neisseria meningitidis ORF 151 partial DNA sequence SEQ ID NO:617.
XX
KW   Neisseria meningitidis; Neisseria gonorrheae; antigen; vaccine;
KW   antigenic; diagnosis; immunogenic; infection; meningitis; septicaemia;
KW   antibacterial; gene therapy; ds.
XX
OS   Neisseria meningitidis.
XX
PN   WO9957280-A2.
XX
PD   11-NOV-1999.
XX
PF   30-APR-1999;   99WO-US09346.
XX
PR   01-MAY-1998;   98US-0083758.
PR   31-JUL-1998;   98US-0094869.
PR   02-SEP-1998;   98US-0098994.
PR   02-SEP-1998;   98US-0099062.
PR   09-OCT-1998;   98US-0103749.
PR   09-OCT-1998;   98US-0103794.
PR   09-OCT-1998;   98US-0103796.
PR   25-FEB-1999;   99US-0121528.
XX
PA   (CHIR ) CHIRON CORP.
PA   (GENO-) INST GENOMIC RES.
XX
PI   Fraser C,  Galeotti C,  Grandi G,  Hickey E,  Masignani V,  Mora M;
PI   Petersen J,  Pizza M,  Rappuoli R,  Ratti G,  Scalato E,  Scarselli M;
PI   Tettelin H,  Venter JC;
XX
DR   WPI; 2000-062150/05.
DR   P-PSDB; AAY74572.
XX
PT   Novel Neisserial polypeptides predicted to be useful antigens for
PT   vaccines and diagnostics  -
XX
PS   Claim 7; Page 433; 1453pp; English.
XX
CC   AAZ53015 to AAZ54536, AAZ54577 to AAZ54615, and AAY74253 to AAY75941
CC   represent novel Neisseria meningitis and N. gonorrheae polynucleotides
CC   and polypeptides. AAZ54537 to AAZ54576 and AAZ54616 to AAZ55473 represent
CC   PCR primers used in the exemplification of the present invention. The
CC   polypeptides, the polynucleotides, antibodies and compositions of
CC   the invention can be used as vaccines, as diagnostic reagents, and as
CC   immunogenic compositions. The polypeptides can be used in the
CC   manufacture of medicaments for treating or preventing infection due to
CC   Neisserial bacteria (e.g. meningitis and septicaemia), to detect the
CC   presence of Neisseria bacteria, or to raise antibodies. They may also
CC   be used to screen for agonists or antagonists, which may themselves
CC   have use as antibacterial agents. The polynucleotides of the invention
CC   may also be used in gene therapy protocols.
XX
SQ   Sequence 1812 BP; 461 A; 537 C; 484 G; 330 T; 0 other;


  Query Match             3.9%;  Score 35;  DB 21;  Length 1812;
  Best Local Similarity   52.4%;  Pred. No. 7.6;
  Matches   77;  Conservative    0;  Mismatches   70;  Indels    0;  Gaps    0;

Qy     339 ggctttggacaagggcgaagggctgctgttcatcacgccgcacatcggcagctacgattt 398
           | |||  |     | | | |||||| |||| | ||    |  ||||| ||||  || ||
Db     966 GCCTTCCGTACCTGCCAACGGGCTGGTGTTGACCATAAAGTCCATCGTCAGCGTCGGTTC 907

Qy     399 gggcggacgctacatcagccagcagcttccgttccacctgaccgccatgtacaagccgcc 458
           |  |   | | ||||| ||  ||   |  |||     || | |  |||   | ||||
Db     906 GTCCACGCTCAACATCGGCAGGCCTTTGGGGTTGTCTTTGTCGGTGATGGTTACGCCGAT 847

Qy     459 gaaaatcaaagcgatagacaaaatcat 485
           |   ||     | |||    |||| ||
Db     846 GCCGATGTCTTCAATACCGGAAATAAT 820


RESULT  45
AAA14651
ID   AAA14651 standard; DNA; 77536 BP.
XX
AC   AAA14651;
XX
DT   08-AUG-2000  (first entry)
XX
DE   Nucleotide sequence of the FK-520 biosynthetic gene cluster.
XX
KW   FK-520; polyketide synthase; PKS; gene cluster; immunosuppressant;
KW   Streptomyces hygroscopicus var. ascomyceticus; immunophilin;
KW   FK-506 binding protein; polyketide compound; transplant rejection;
KW   graft-versus-host disease; uveitis; alopecia universalis;
KW   autoimmune chronic active hepatitis; inflammatory bowel disease;
KW   multiple sclerosis; primary biliary cirrhosis; scleroderma;
KW   neurite outgrowth; nerve regrowth; Parkinson's disease;
KW   Alzheimer's disease; stroke; traumatic spinal cord; brain injury;
KW   peripheral neuropathy; ss.
XX
OS   Streptomyces hygroscopicus.
XX
FH   Key             Location/Qualifiers
FT   CDS             complement (412..1836)
FT                   /*tag=  a
FT                   /note= "fkbW gene"
FT   CDS             complement (2020..3579)
FT                   /*tag=  b
FT                   /note= "fkbV gene"
FT   CDS             3969..4496
FT                   /*tag=  c
FT                   /note= "fkbR2 gene"
FT   CDS             complement (4595..5488)
FT                   /*tag=  d
FT                   /note= "fkbR1 gene"
FT   CDS             5601..6818
FT                   /*tag=  e
FT                   /note= "fkbE gene"
FT   CDS             6808..8052
FT                   /*tag=  f
FT                   /note= "fkbF gene"
FT   CDS             8156..8824
FT                   /*tag=  g
FT                   /note= "fkbG gene"
FT   CDS             complement (9122..9883)
FT                   /*tag=  h
FT                   /note= "fkbH gene"
FT   CDS             complement (9894..10994)
FT                   /*tag=  i
FT                   /note= "fkbI gene"
FT   CDS             complement (10987..11247)
FT                   /*tag=  j
FT                   /note= "fkbJ gene"
FT   CDS             complement (11244..12092)
FT                   /*tag=  k
FT                   /note= "fkbK gene"
FT   CDS             complement (12113..13150)
FT                   /*tag=  l
FT                   /note= "fkbL gene"
FT   CDS             complement (13212..23988)
FT                   /*tag=  m
FT                   /note= "fkbC gene"
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FT                   /*tag=  n
FT                   /note= "ACP6"
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FT   misc_feature    complement (13761..14394)
FT                   /*tag= o
FT                   /note= "KR6"
FT   misc_feature    complement (14517..15294)
FT                   /*tag= p
FT                   /note= "ER6"
FT   misc_feature    complement (15438..16587)
FT                   /*tag= q
FT                   /note= "dehydratase domain (DH) 6"
FT   misc_feature    complement (16587..17820)
FT                   /*tag= r
FT                   /note= "acyltransferase domain (AT) 6"
FT   misc_feature    complement (17820..19053)
FT                   /*tag= s
FT                   /note= "KS6"
FT   misc_feature    complement (19116..19326)
FT                   /*tag= t
FT                   /note= "ACP5"
FT   misc_feature    complement (19464..20097)
FT                   /*tag= u
FT                   /note= "KR5"
FT   misc_feature    complement (20241..21420)
FT                   /*tag= v
FT                   /note= "DH5"
FT   misc_feature    complement (21420..22653)
FT                   /*tag= w
FT                   /note= "AT5"
FT   misc_feature    complement (22653..23892)
FT                   /*tag= x
FT                   /note= "KS5"
FT   CDS             complement (23992..46573)
FT                   /*tag= y
FT                   /note= "fkbB gene"
FT   misc_feature    complement (24163..24373)
FT                   /*tag= z
FT                   /note= "ACP4"
FT   misc_feature    complement (24997..26146)
FT                   /*tag= aa
FT                   /note= "DH4 (inactive)"
FT   misc_feature    complement (26146..27430)
FT                   /*tag= ab
FT                   /note= "AT4"
FT   misc_feature    complement (27430..28684)
FT                   /*tag= ac
FT                   /note= "KS4"
FT   misc_feature    complement (28750..28960)
FT                   /*tag= ad
FT                   /note= "ACP3"
FT   misc_feature    complement (29092..29740)
FT                   /*tag= ae
FT                   /note= "KR3"
FT   misc_feature    complement (29869..31018)
FT                   /*tag= af
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FT   misc_feature    complement (31018..32185)
FT                   /*tag= ag
FT                   /note= "AT3"
FT   misc_feature    complement (32185..33439)
FT                   /*tag= ah
FT                   /note= "KS3"
FT   misc_feature    complement (33505..33715)
FT                   /*tag= ai
FT                   /note= "ACP2"
FT   misc_feature    complement (33823..34480)
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FT                   /note= "KR2"
FT   misc_feature    complement (34606..35749)
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FT   misc_feature    complement (28750..28960)
FT                   /*tag= al
FT                   /note= "DH2 (inactive)"
FT   misc_feature    complement (35749..37144)
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FT                   /note= "AT2"
FT   misc_feature    complement (37145..38296)
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FT                   /note= "KS2"
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FT                   /*tag= ao
FT                   /note= "ACP1"
FT   misc_feature    complement (38677..39307)
FT                   /*tag= ap
FT                   /note= "KR1"
FT   misc_feature    complement (39442..40609)
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FT                   /note= "DH1"
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FT   misc_feature    complement (43144..43660)
FT                   /*tag= at
FT                   /note= "ACP of loading domain"
FT   misc_feature    complement (43777..44629)
FT                   /*tag= au
FT                   /note= "ER of loading domain"
FT   misc_feature    complement (44974..46573)
FT                   /*tag= av
FT                   /note= "CoA ligase of laoding domain"
FT   CDS             46754..47788
FT                   /*tag= aw
FT                   /note= "fkbO gene"
FT   CDS             47785..52272
FT                   /*tag= ax
FT                   /note= "fkbP gene"
FT   CDS             52275..71465
FT                   /*tag= ay
FT                   /note= "fkbA gene"
FT   misc_feature    52362..53576
FT                   /*tag= az
FT                   /note= "KS7"
FT   misc_feature    53577..54716
FT                   /*tag= bb
FT                   /note= "AT7"
FT   misc_feature    54717..55871
FT                   /*tag= ba
FT                   /note= "DH7"
FT   misc_feature    56019..56819
FT                   /*tag= bc
FT                   /note= "ER7"
FT   misc_feature    56943..57575
FT                   /*tag= bd
FT                   /note= "KR7"
FT   misc_feature    57710..57920
FT                   /*tag= be
FT                   /note= "ACP7"
FT   misc_feature    57990..59243
FT                   /*tag= bf
FT                   /note= "KS8"
FT   misc_feature    59244..60398
FT                   /*tag= bg
FT                   /note= "AT8"
FT   misc_feature    60399..61412
FT                   /*tag= bh
FT                   /note= "DH8 (inactive)"

  Query Match             3.9%;  Score 35;  DB 21;  Length 77536;
  Best Local Similarity   52.4%;  Pred. No. 34;
  Matches   77;  Conservative    0;  Mismatches   70;  Indels    0;  Gaps    0;

Qy    491 cgggcagggtgcgcggcaaaggcaaaaccgcgcccaccggcatacaaggggtcaaacaaa 550
          ||| || |  |  |  |  |  ||      |  || ||||  |    || ||||   | |
Db  63601 cggtcaagtcgaacatcggacacacccagaccaccgccggtgtcgccggcgtcatcaaga 63660
```

```
Qy      551 tcatcaaggccctgcgcgcgggcgaggcaaccatcatcctgcccgaccacgtcccttctc 610
            |  ||| |||  |||||   |||   ||  | |  |  |||| ||   |||  || ||
Db    63661 tggtcatggcgatgcgccacggcatcgcgccgaagacactgcacgtggacgagccgtcgt 63720

Qy      611 cgcaggaaggcggcggcgtgtgggcgg 637
            |||| |  | | |   || | | ||||
Db    63721 cgcatgtggactggaccgagggtgcgg 63747


Search completed: June 30, 2002, 18:01:01
Job time: 82694 sec
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